NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD NEWTON CENTER MASSACHUSETTS 02459

RAYMOND DESIGN ASSOCIATES
222 NORTH STREET, HINGHAM, MA. 02043
ARCHITECT

RRC ENGINEERING
78 SOUTH STREET, WRENTHAM, MA. 02093
STRUCTURAL ENGINEER

WB&A WOZNY/BARBAR & ASSOCIATES INC.
1090 WASHINGTON ST. HANOVER, MA. 02339
PLUMBING, ELECTRICAL & MECHANICAL ENGINEER

LIST OF DRAWINGS

MATERIAL SYMBOLS

EARTH
POROUS FILL, GRAVEL
CONCRETE
BRICK MASONRY UNIT
CONCRETE MASONRY UNIT
RESILIENT TILE
METAL (LARGE SCALE)
GLASS (SMALL SCALE)
GLASS (LARGE SCALE)
BATT INSULATION
RIGID INSULATION
CERAMIC TILE
ACOUSTICAL TILE
GYPSUM WALL BOARD
METAL (SMALL SCALE)
WOOD SHIM
WOOD BLOCKING
FINISH WOOD
PLYWOOD
PARTICLE BOARD
TILE BACKER BOARD

GRAPHIC SYMBOLS

COL — COLUMN GRID
2 / A5 — WALL SECTION
4 / A6 — DETAIL
2 / A5 — BUILDING SECTION
A — WINDOW TYPE
109 — DOOR NUMBER
5 — LOUVER TYPE
103 — ROOM NUMBER
1 / 4A – B2 / 3 — INTERIOR ELEVATION
12.00' — ELEVATION MARKER
1 — REVISION MARKER
1 — WALL TYPE MARKER

ABBREVIATIONS

AC	ACOUSTICAL
A/C	AIR CONDITIONING
AC PLAS	ACOUSTICAL PLASTER
ACT	ACOUSTICAL TILE
AD	AREA DRAIN
ADD	ADDENDUM
ADJ	ADJACENT
ADJT	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
ALUM	ALUMINUM
ANC	ANCHOR
ANC BLT	ANCHOR BOLT
ANOD	ANODIZED
APPROX	APPROXIMATE
APT	APARTMENT
ARCH	ARCHITECT
ASB	ASBESTOS
ASPH	ASPHALT
BBD	BULLETIN BOARD
BD	BOARD
BET	BETWEEN
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BVL	BEVELED
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT
CER	CERAMIC
CH	CEILING HEIGHT
CIP	CAST IN PLACE
CIR	CIRCLE
CJT	CONTROL JOINT
CK	CAULK
CLG	CEILING
CLG HGT	CEILING HEIGHT
CLL	CONTRACT LIMIT LINE
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
COL	COLUMN
COMB	COMBINATION
COMP	COMPOSITION
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CPT	CARPET
CRS	COURSE
CSMT	CASEMENT
CT	CERAMIC TILE
DA	DOUBLE ACTING
DEM	DEMOLITION
DEP	DEPRESSED
DET	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DP PR	DAMPPROOFING
DS	DOWN SPOUT
DWG(S)	DRAWING(S)
DWR	DRAWER
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EXCA	EXCAVATE
EX	EXHAUST
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR
FA	FIRE ALARM
FB	FACE BRICK
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FFE	FINISH FLOOR ELEVATION
FIB GL	FIBERGLASS
FIN	FINISH
FLASH	FLASHING
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIRE PROOFING
FTG	FOOTING
FUR	FURRING
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GD	GRADE
GWB	GYPSUM WALLBOARD
HCP	HANDICAP
HCWC	HANDICAP WATER CLOSET
HC	HOLLOW CORE
HD	HEAVY DUTY
HDR	HEADER
HDWR	HARDWARE
HM	HOLLOW METAL
HOR	HORIZONTAL
HT	HEIGHT
HTG	HEATING
HVAC	HEATING,VENTILATING, AIR CONDITIONING
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JC	JANITOR'S CLOSET
JT	JOINT
KIT	KITCHEN
KO	KNOCK OUT
KPL	KICK PLATE
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LBL	LABEL
LGM	LIGHT GAUGE METAL FRAMING
LH	LEFT HAND
LIN	LINEN
L	LENGTH
LT	LIGHT
LTL	LINTEL
LWT	LIGHT WEIGHT
LWTC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MBR	MEMBER
MC	MEDICINE CABINET
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MOD	MODULAR
MTL	METAL
MTL FR	METAL FRAME
N/A	NOT APPLICABLE
NAT	NATURAL
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPH	OPPOSITE HAND
OPP	OPPOSITE
PAR	PARALLEL
PB	PANIC BAR
PBD	PARTICLE BOARD
PCC	PRECAST CONCRETE
PF	PREFINISHED
PK	PARKING
PL	PLATE
PLAM	PLASTIC LAMINATE
PPL	PROPERTY LINE
PRM	PERIMETER
PT	PRESSURE TREATED
PTD	PAINTED
PTN	PARTITION
PV	PAVING
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWD	PLYWOOD
QT	QUARRY TILE
R	RADIUS/RISER
RB	RUBBER BASE
RBT	RUBBER TILE
RD	ROOF DRAIN
REF	REFERENCE
REFR	REFRIGERATOR
RES	RESILIENT
RFG	ROOFING
RFH	ROOF HATCH
RFL	REFLECT/ED/IVE/OR
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
RVS	REVERSE
SC	SOLID CORE
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SF	SQUARE FEET
SIM	SIMILAR
SL	SLEEVE
SP	SOUND PROOF
SPEC	SPECIFICATION
SQ	SQUARE
SRB	SPLIT RIBBED BLOCK
SRF	SYNTHETIC RUBBER FLOOR
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTURAL
SV	SHEET VINYL
T	TREAD
TB	TOWEL BAR
TEL	TELEPHONE
THK	THICKNESS
TOL	TOLERANCE
TOS	TOP OF SLAB
TO STL	TOP OF STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TR	TRANSOM
TYP	TYPICAL
UC	UNDERCUT
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
VCT	VINYL COMPOSITION TILE
VB	VAPOR BARRIER/VINYL BASE
VERT	VERTICAL
VT	VINYL TILE
VTR	VENT THROUGH ROOF
W	WIDE/WIDTH
W/	WITH
WB	WALLBOARD
WC	WATER CLOSET
WD	WOOD
WH	WALL HUNG
WHB	WHEEL BUMPER
WM	WIRE MESH
WP	WATERPROOF(ING)
WR	WATER REPELLENT
WTW	WALL TO WALL
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

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COVER SHEET

Revisions:

No.	Date	Description

Drawn By: SRL
Checked By:
Approved By: GR

Drawing Scale:

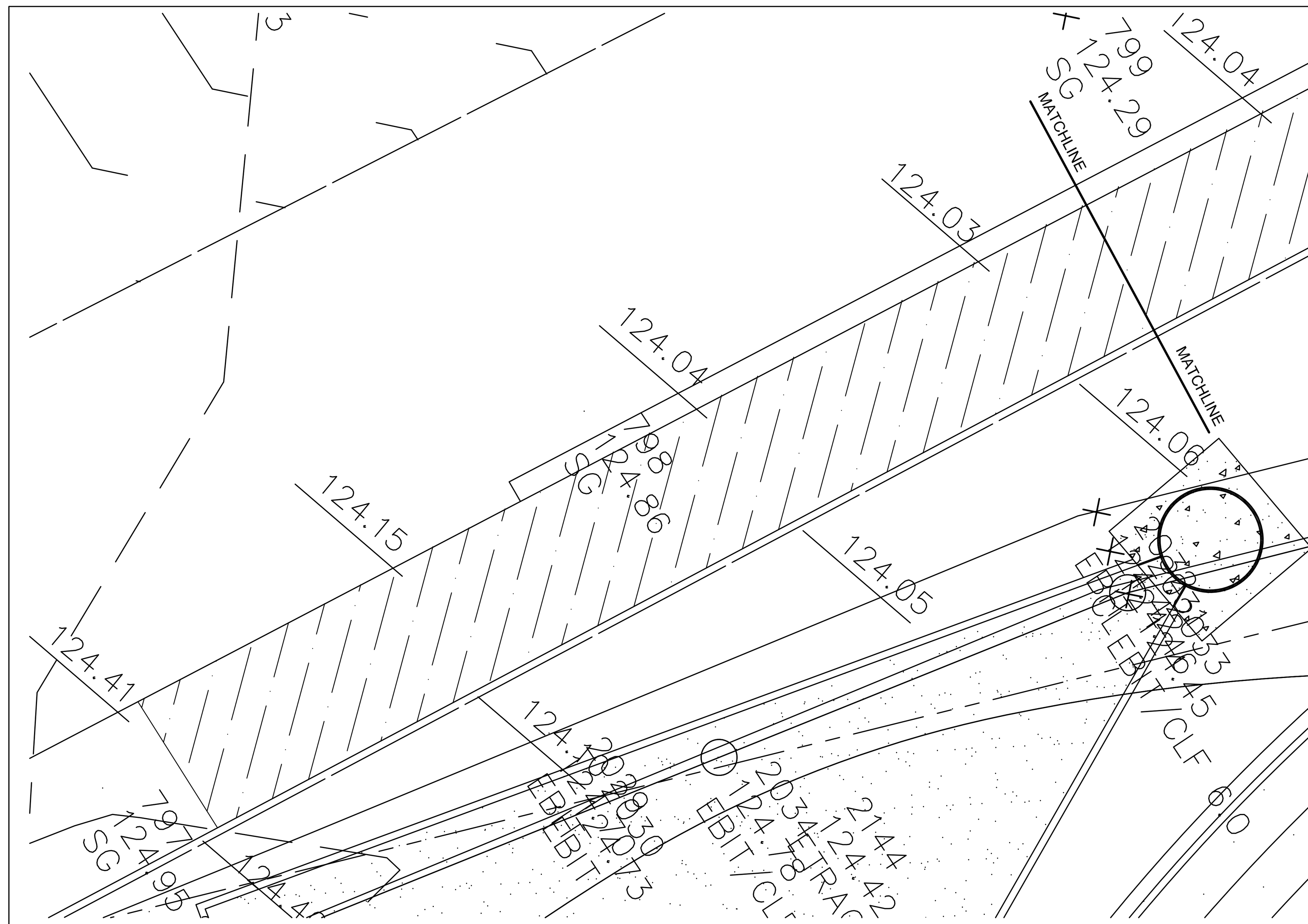
Project Number:

Date: September 8, 2011

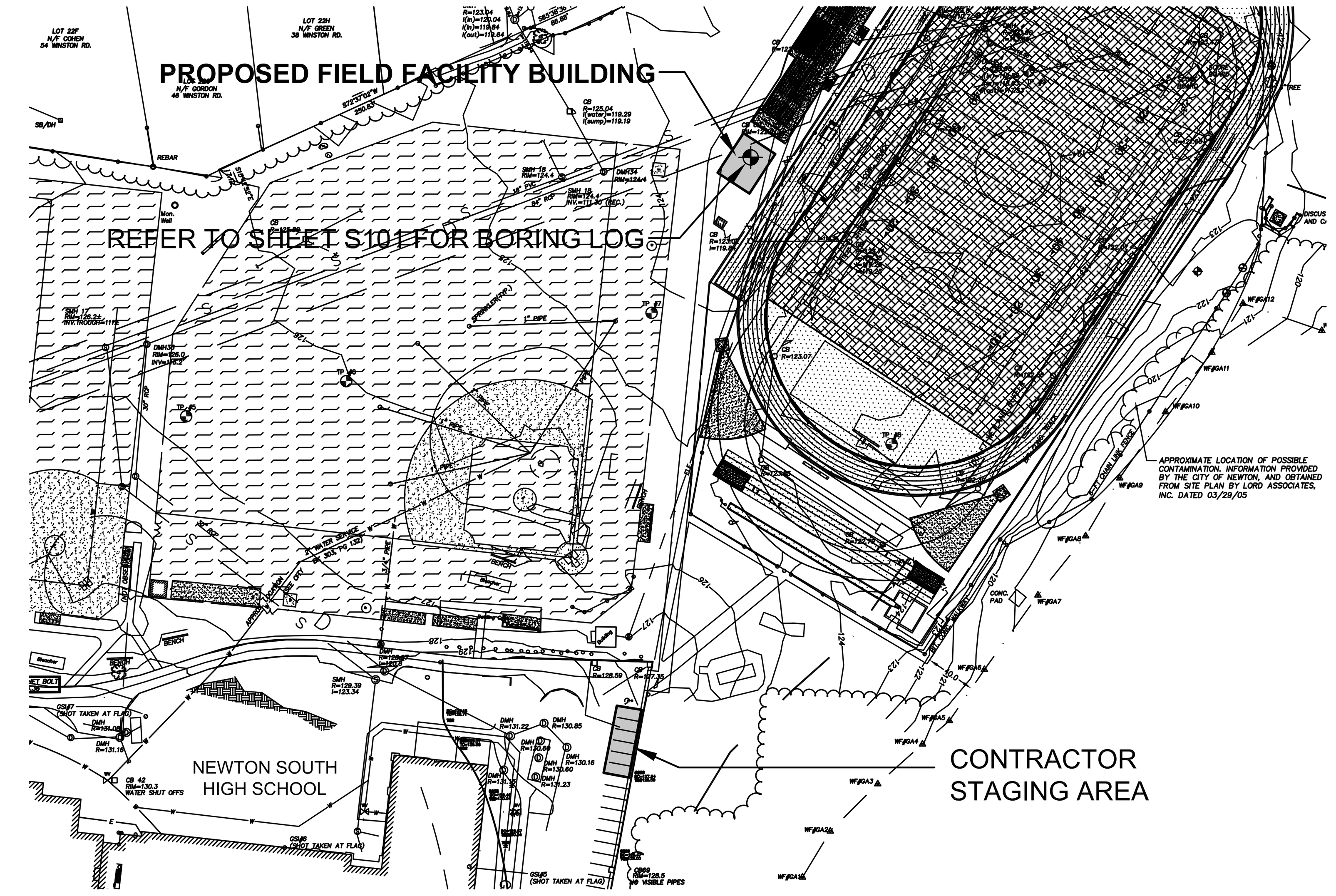
CS1

BID SET

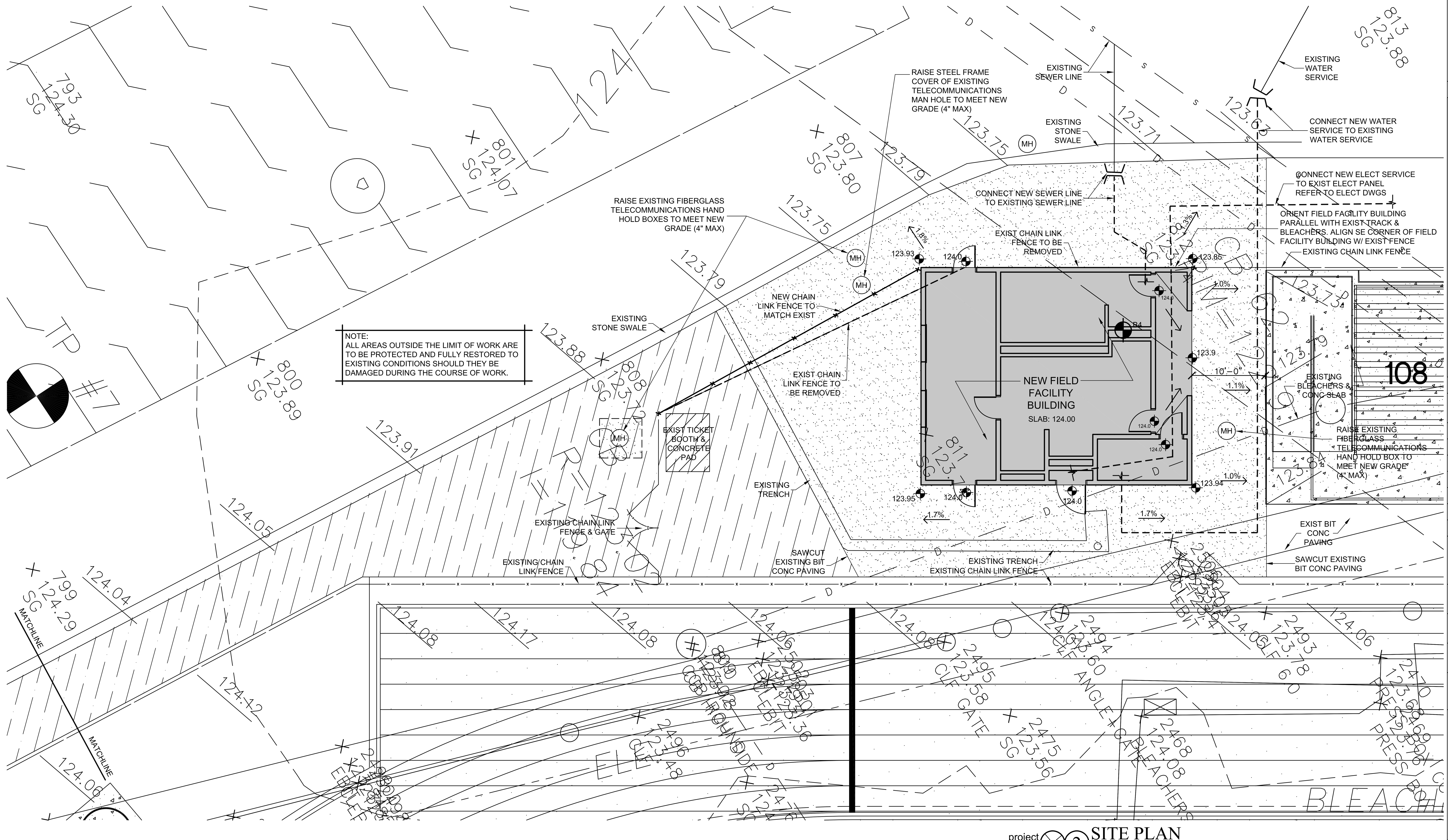
SHEET OF



project north 2 SITE PLAN cont.
SCALE: 1/8" = 1'-0"



project north 1 LOCATION PLAN
SCALE: 1" = 100'-0"



project north 2 SITE PLAN
SCALE: 1/8" = 1'-0"

SITE PLAN LEGEND

123.79	EXISTING SPOT GRADE
124.0	NEW SPOT GRADE
	NEW CHAIN LINK FENCE TO MATCH EXIST
	EXISTING ITEM TO BE REMOVED
	AREA OF EXIST BIT CONC PAVEMENT REMOVAL, REGRADE, NEW BASE & TOP COAT
	AREA OF EXIST BIT CONC PAVEMENT TO RECEIVE "SHIM" COAT OF NEW BIT CONC PAVING
	NEW UNDERGROUND UTILITY CONNECTION
1.7%	NEW PAVING/SLAB SLOPE
B4	APPROX LOCATION OF BORING

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SITE PLAN

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C1

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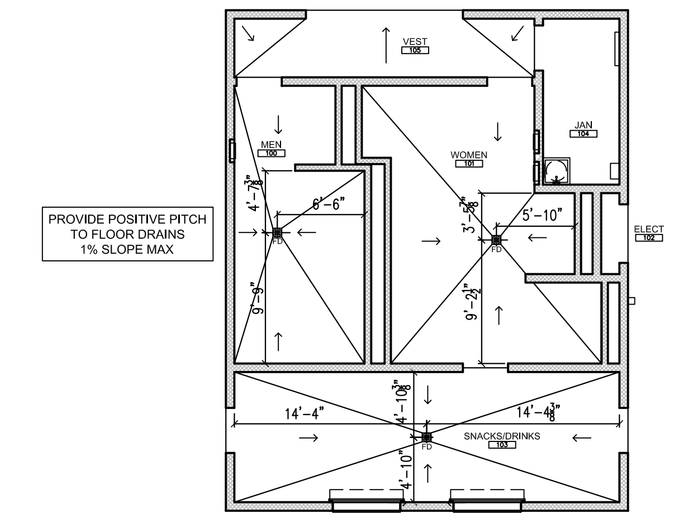
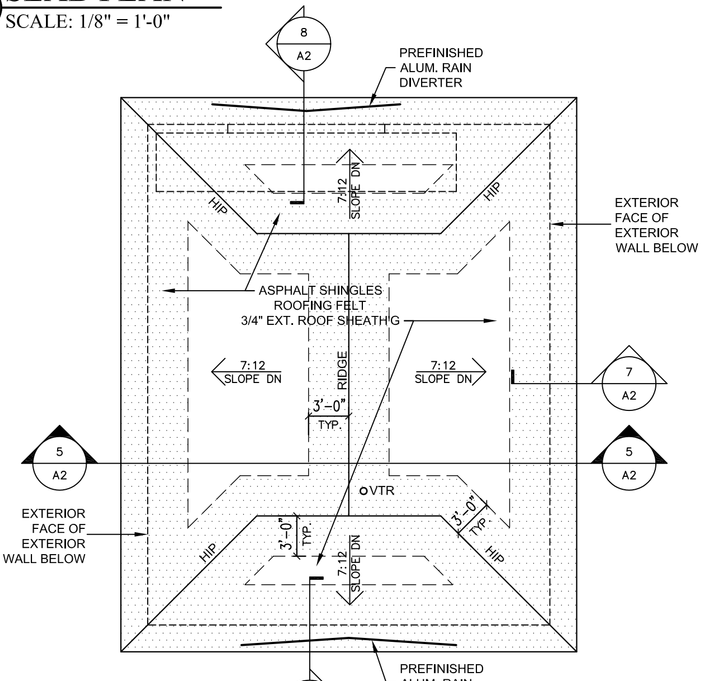


4 SLAB PLAN
SCALE: 1/8" = 1'-0"

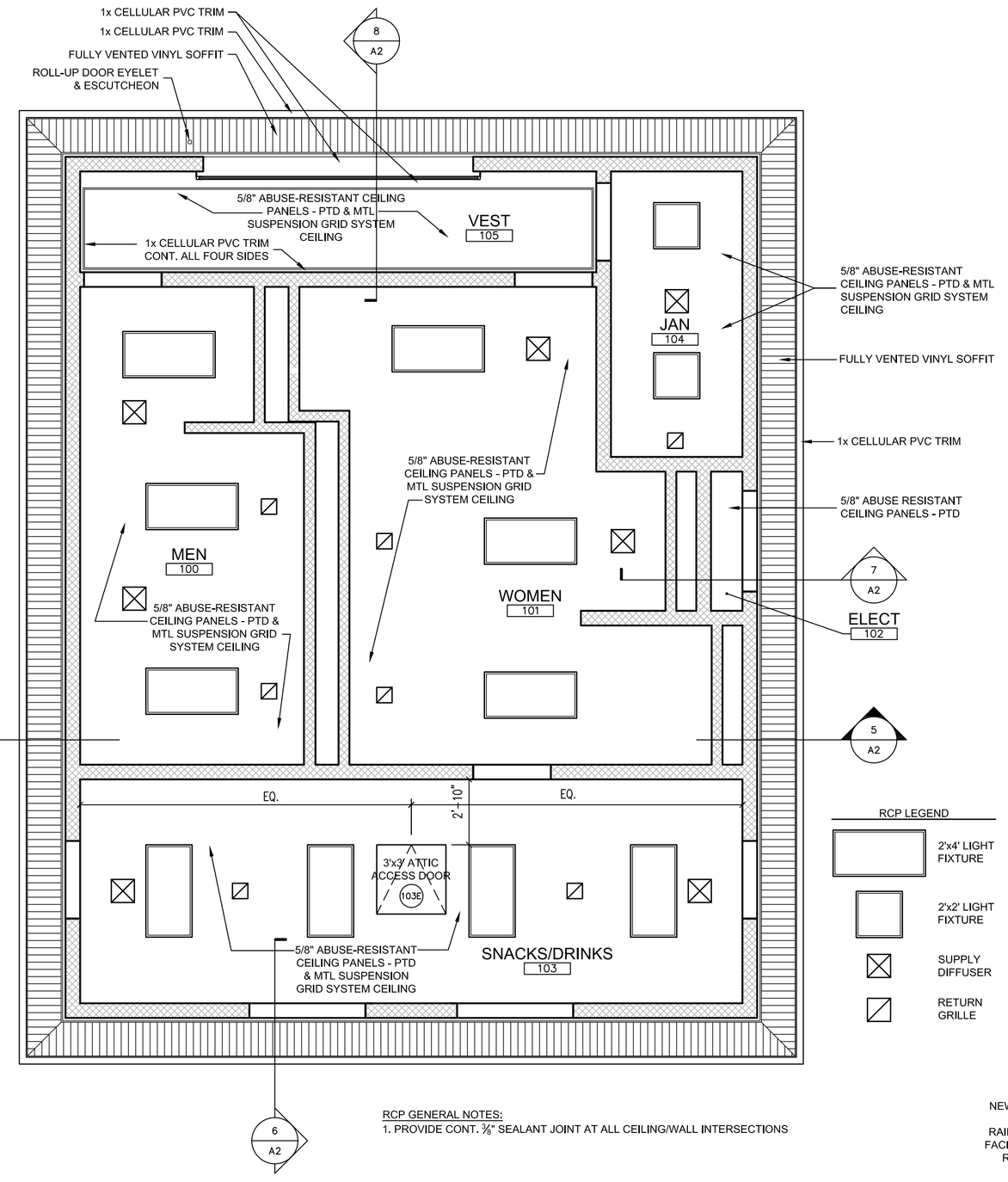
project north



3 ROOF PLAN
SCALE: 1/8" = 1'-0"

project north

EXTENT OF ICE & WATER SHIELD ON ROOF



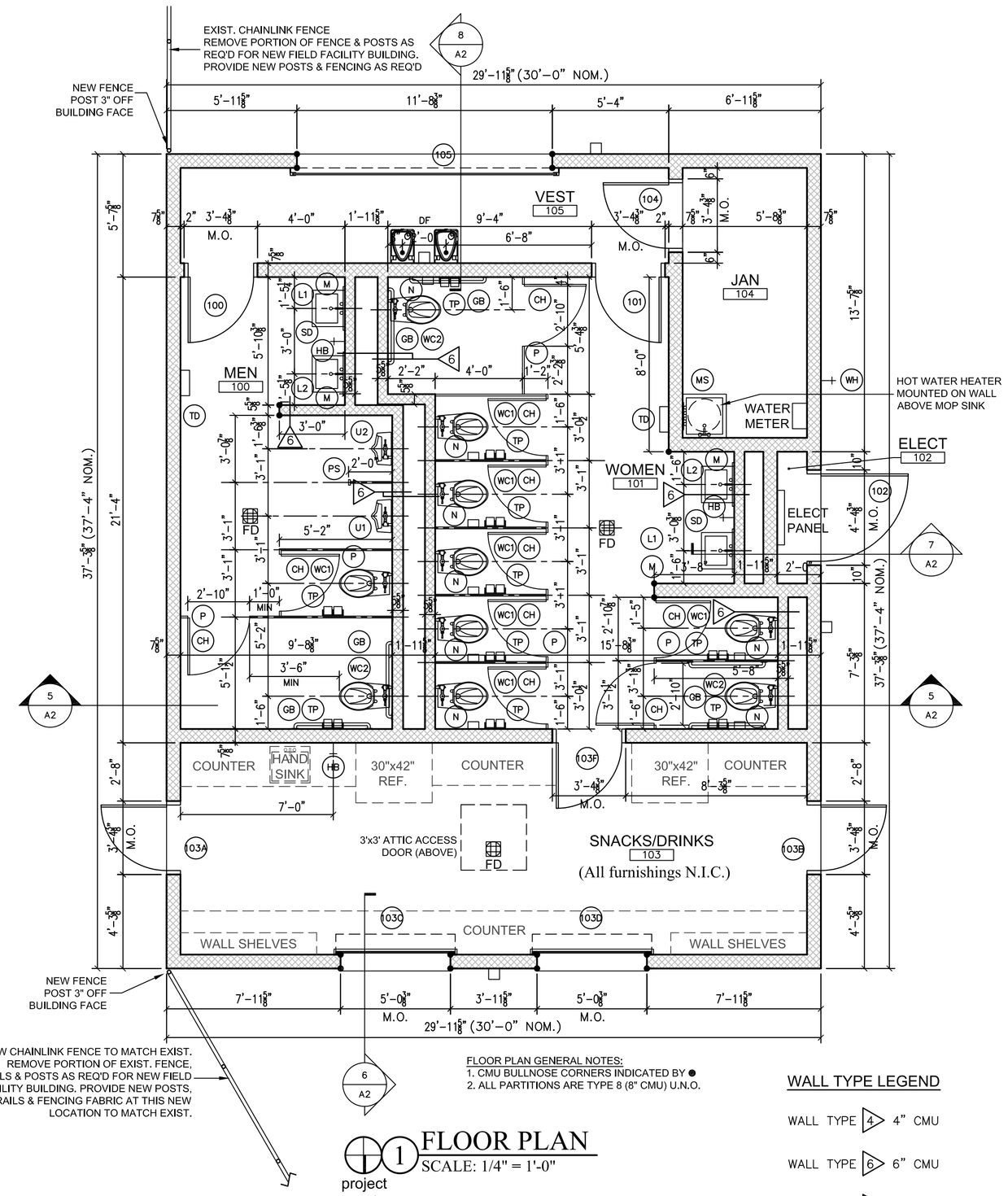
RCP LEGEND

- 2'x4' LIGHT FIXTURE
- 2'x2' LIGHT FIXTURE
- SUPPLY DIFFUSER
- RETURN GRILLE

RCP GENERAL NOTES:
1. PROVIDE CONT. ⅛" SEALANT JOINT AT ALL CEILING/WALL INTERSECTIONS

2 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

project north



FLOOR PLAN GENERAL NOTES:
1. CMU BULLNOSE CORNERS INDICATED BY ●
2. ALL PARTITIONS ARE TYPE 8 (8" CMU) U.N.O.

1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

project north

WALL TYPE LEGEND

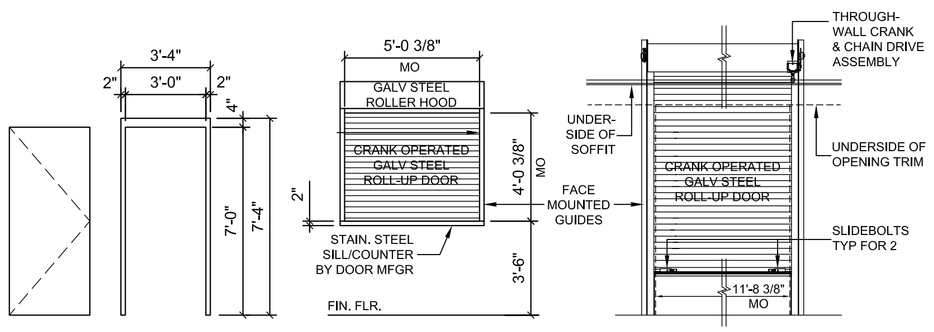
- WALL TYPE 4 — 4" CMU
- WALL TYPE 6 — 6" CMU
- WALL TYPE 8 — 8" CMU

	FINISH SCHEDULE					
ROOM NO.	ROOM	WALLS (NOTE A)	FLOORS	CEILING (NOTE A)	BASE	NOTES
100	MEN	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		A. EPOXY PAINT - ALL PTD. CMU SURFACES
101	WOMEN	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		
102	ELECT	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		
103	SNACKS/DRINKS	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		
104	JAN	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		
105	VEST	CMU - PTD	CONC. - SEALED	ABUSE-RESIST PANELS - PTD		

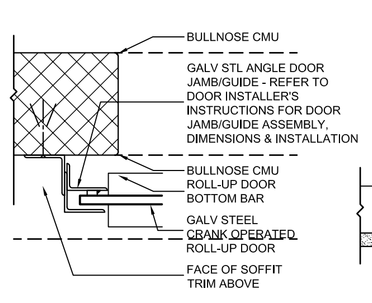
	DOOR SCHEDULE											
ROOM NO.	DOOR NO.	ROOM	DOOR SIZE	DOOR (NOTE B)			FRAME (NOTE B)				HDWR NO.	FIRE RATING	NOTES
				TYPE	MATL	FINISH	TYPE	MATL	FINISH	DET			
100	100	MEN	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	2	-	A. 3'x3' CEILING ACCESS DOOR MODEL UF-5000 BY ACUDOR OR APPROVED EQ. FIELD PAINT TO MATCH CEILING COLOR
101	101	WOMEN	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	2	-	B. ALL DOORS & FRAMES EXCEPT 103C & 103D TO BE GALVANIZED
102	102	ELECT	4'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	1	-	C. DOOR INSTALLER TO VERIFY DOOR SIZE
103	103A	SNACKS/DRINKS	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	1	-	
103	103B	SNACKS/DRINKS	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	1	-	
103	103C	SNACKS/DRINKS	5'-0 3/8" x 4'-0 3/8" MO	3	STL	GALV	-	STL	GALV	2, 11	-	-	
103	103D	SNACKS/DRINKS	5'-0 3/8" x 4'-0 3/8" MO	3	STL	GALV	-	STL	GALV	2, 11	-	-	
103	103E	SNACKS/DRINKS	3'-0" x 3'-0"	NOTE A	MTL	PTD	NOTE A	MTL	PTD	3	-	-	
103	103F	SNACKS/DRINKS	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	X	-	
104	104	JAN	3'-0" x 7'-0" x 1 ¾"	1	FG	PTD	1	ALUM	PF	1	1	-	
105	105	VEST	11'-8" x 8'-7" NOTE C	4	STL	GALV	-	STL	GALV	4	-	-	

ABBREVIATIONS

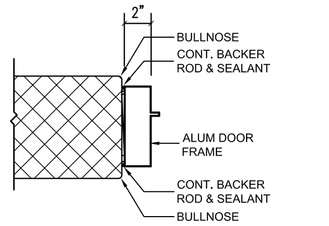
GWB - GYPSUM WALL BOARD
PTD - PAINTED
ALUM - ALUMINUM
VCT - VINYL COMPOSITION TILE
SS - STAINLESS STEEL
FG - FIBERGLASS
PF - PREFINISHED
WD - WOOD
HM - HOLLOW METAL
EXP - EXPOSED
ALUM - ALUMINUM
MTL - METAL
GALV - GALVANIZED
STL - STEEL



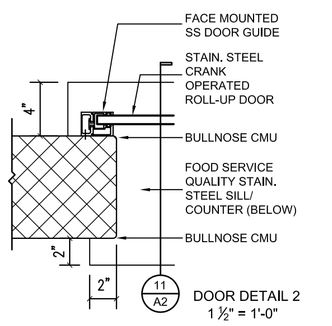
DOOR TYPE 1 ½" = 1'-0" | FRAME TYPE 1 ½" = 1'-0" | DOOR TYPE 3 ½" = 1'-0" | DOOR TYPE 4 ½" = 1'-0"



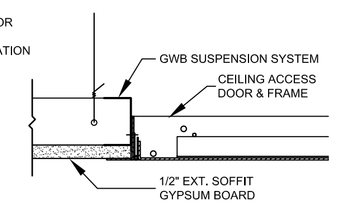
DOOR DETAIL 4
1 ½" = 1'-0"



DOOR DETAIL 1
1 ½" = 1'-0"

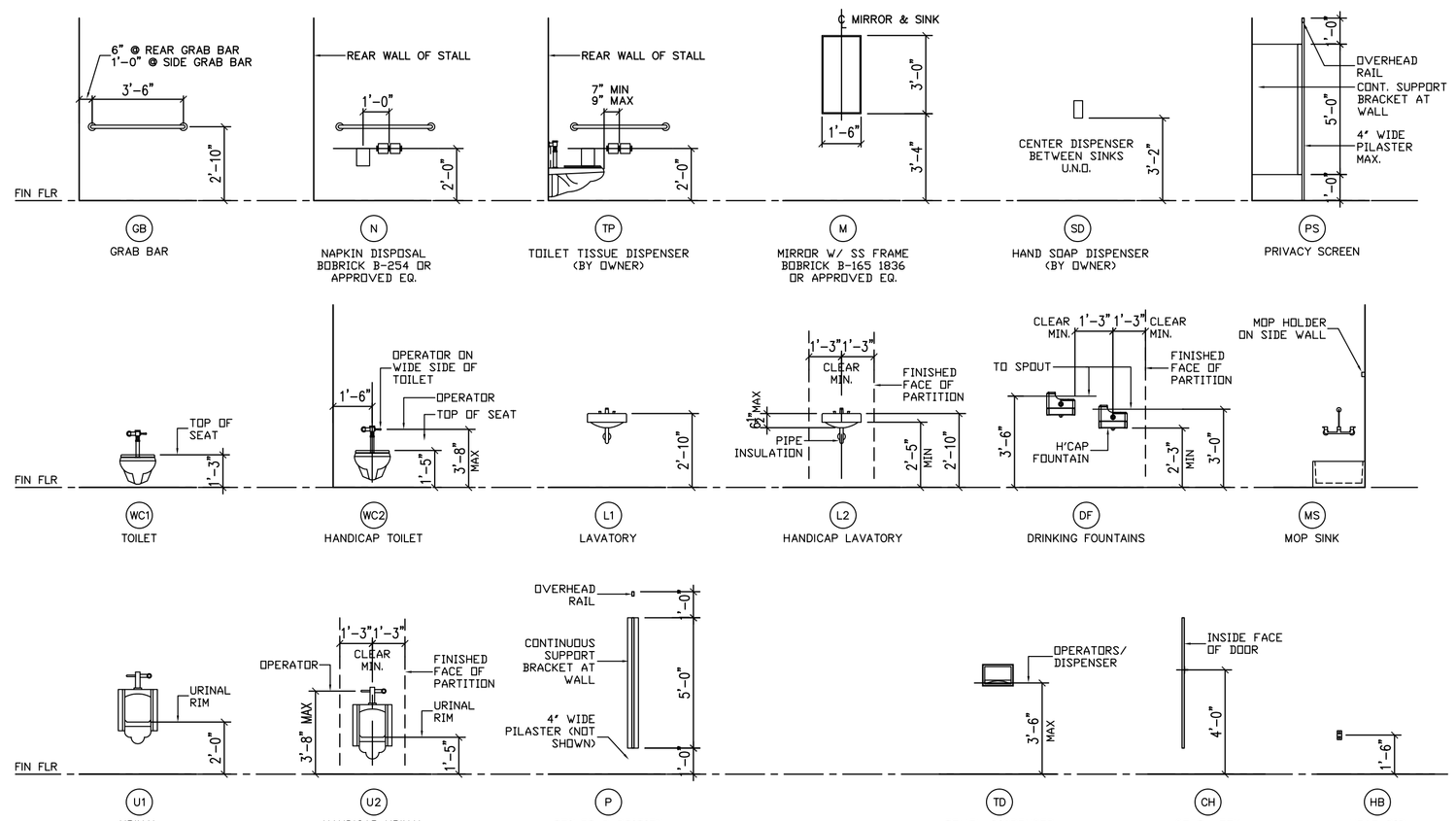


DOOR DETAIL 2
1 ½" = 1'-0"



DOOR DETAIL 3
3" = 1'-0"

TOILET ROOM FIXTURE & ACCESSORY LEGEND
SCALE: 1/4" = 1'-0"

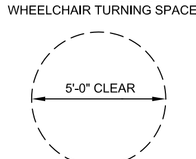


TOILET ROOM GENERAL NOTES

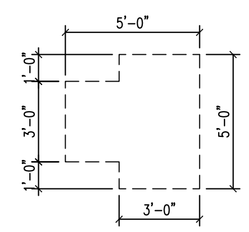
1. (TP) INDICATES TOILET ROOM FIXTURE / ACCESSORY TYP. REFER TO TOILET ROOM FIXTURE & ACCESSORY LEGEND
2. PROVIDE DOOR HANDLES @ BOTH SIDES OF STALL DOORS
3. STALL DOORS SHALL BE 24" WIDE U.N.O.
4. TOILET PAPER DISPENSER, PAPER TOWEL DISPENSR, SOAP DISPENSER BY OWNER

ACCESSIBILTY LEGEND

PROVIDE EACH TOILET ROOM WITH AN ACCESSIBLE WHEELCHAIR TURNING SPACE



ACCESSIBLE WHEELCHAIR FLOOR AREA TURNING SPACE - OPTION 1



ACCESSIBLE WHEELCHAIR FLOOR AREA TURNING SPACE - OPTION 2

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FLOOR PLAN
REFLECTED CEILING PLAN
ROOF PLAN

Revisions:

No.	Date	Description

Drawn By: SRL
Checked By:
Approved By: GR

Drawing Scale: AS NOTED

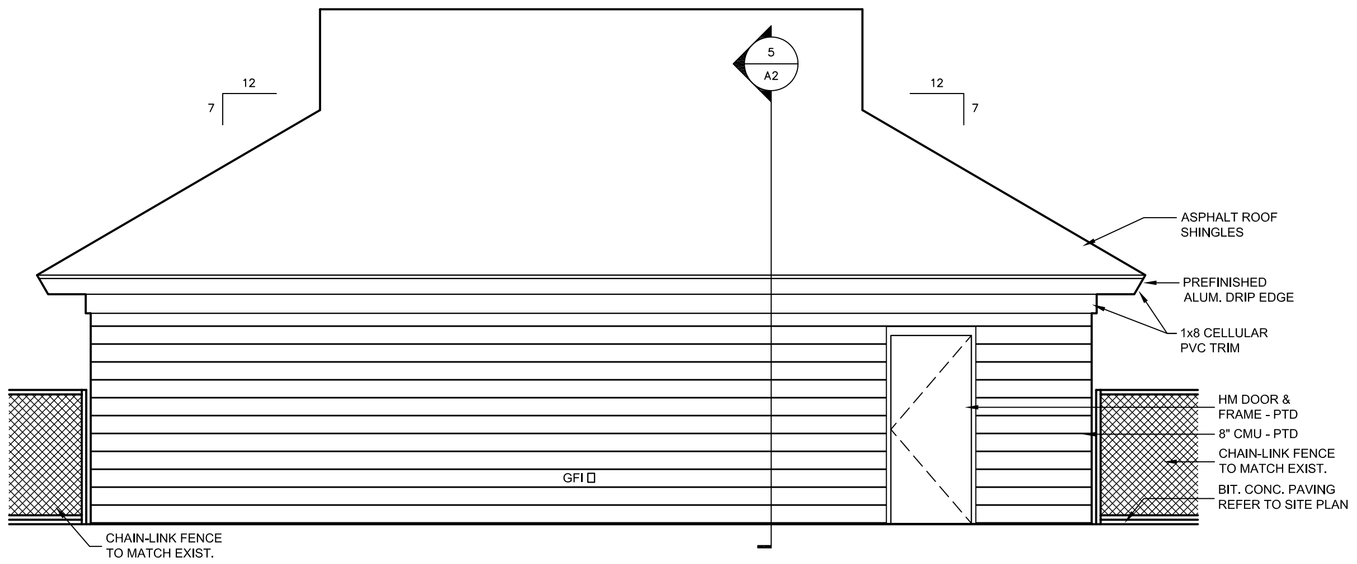
Project Number:

Date: September 8, 2011

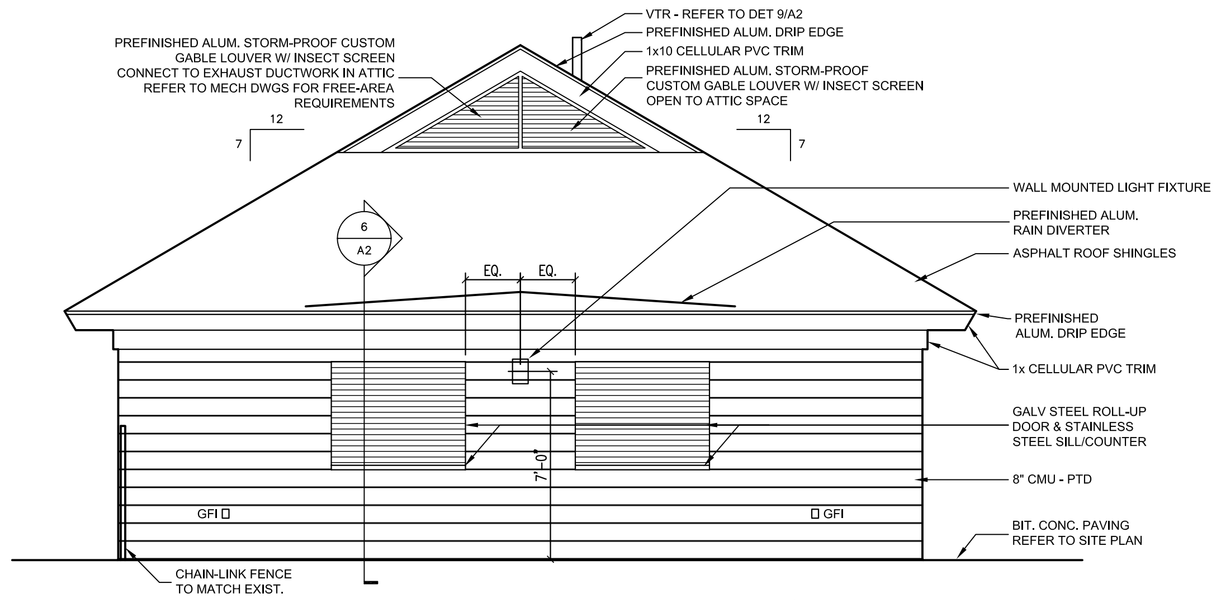
A1

BID SET

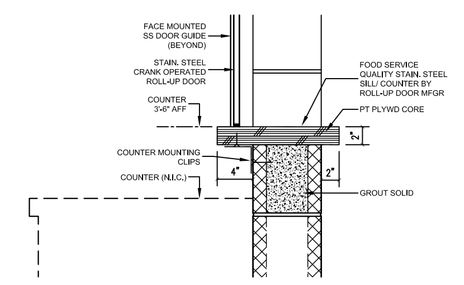
SHEET OF



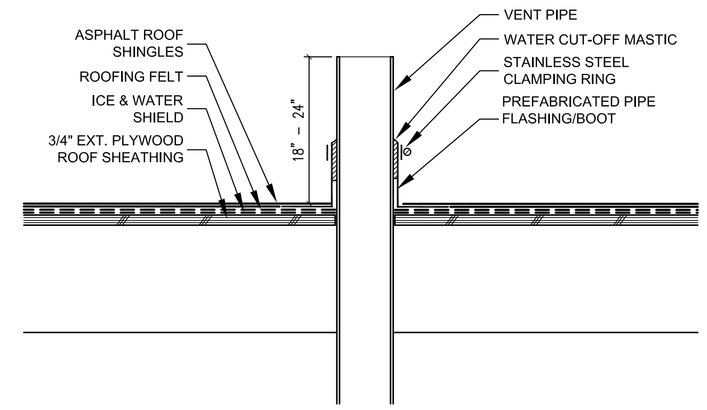
3 EAST ELEVATION
SCALE: 1/4" = 1'-0"



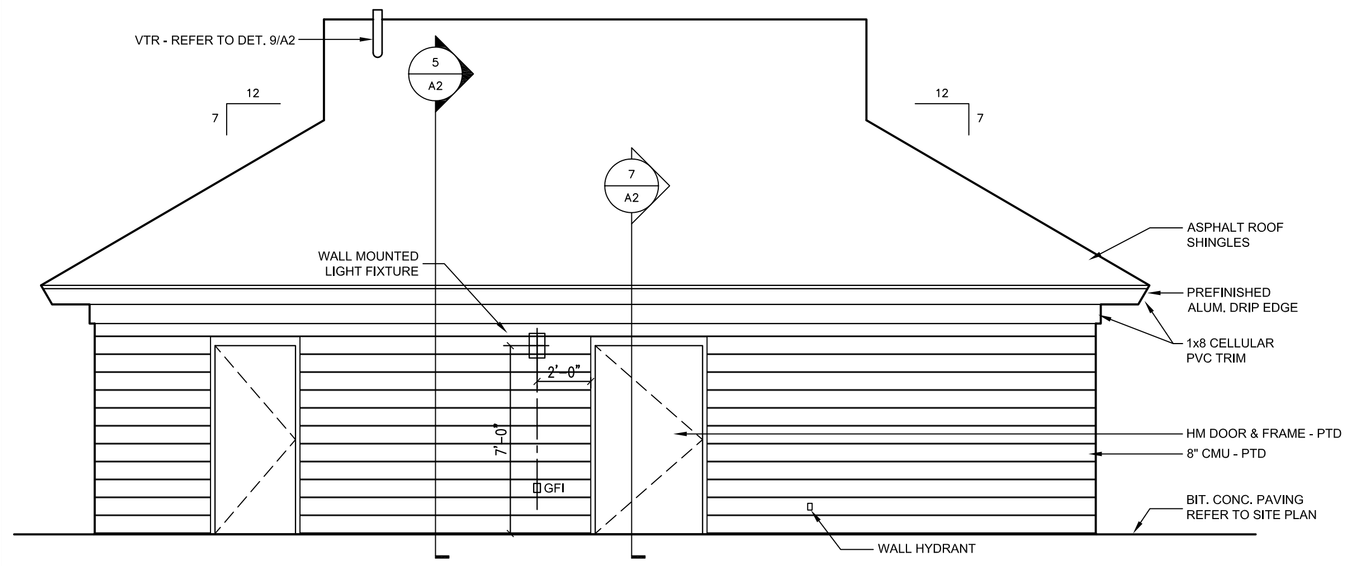
1 NORTH ELEVATION
SCALE: 1/4" = 1'-0"



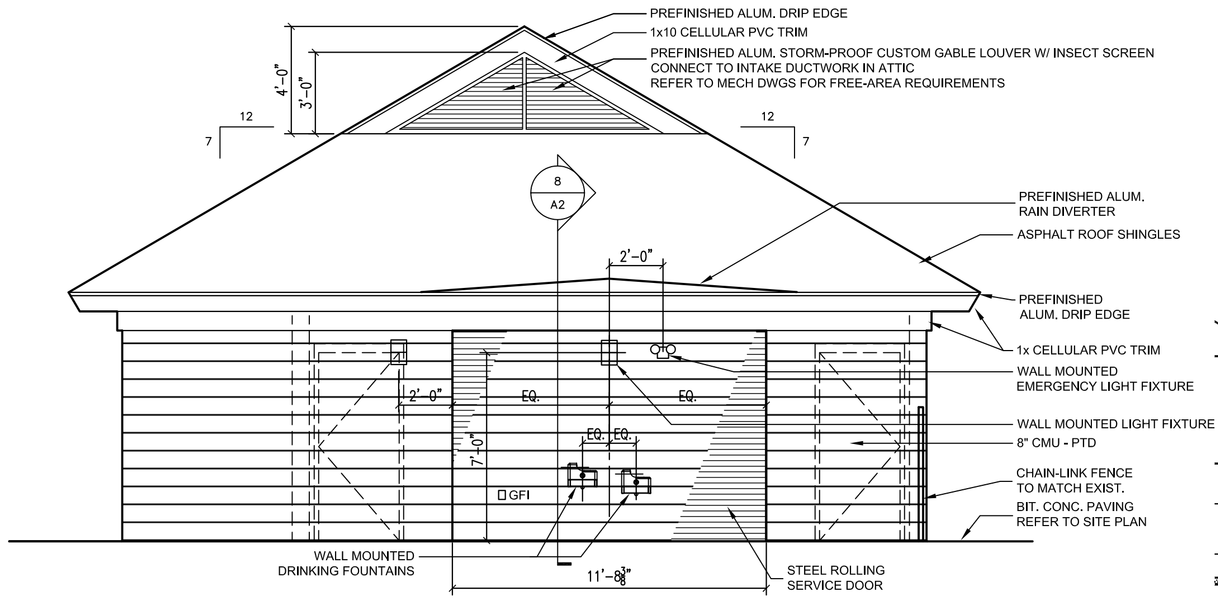
11 COUNTER DETAIL
SCALE: 1 1/2" = 1'-0"



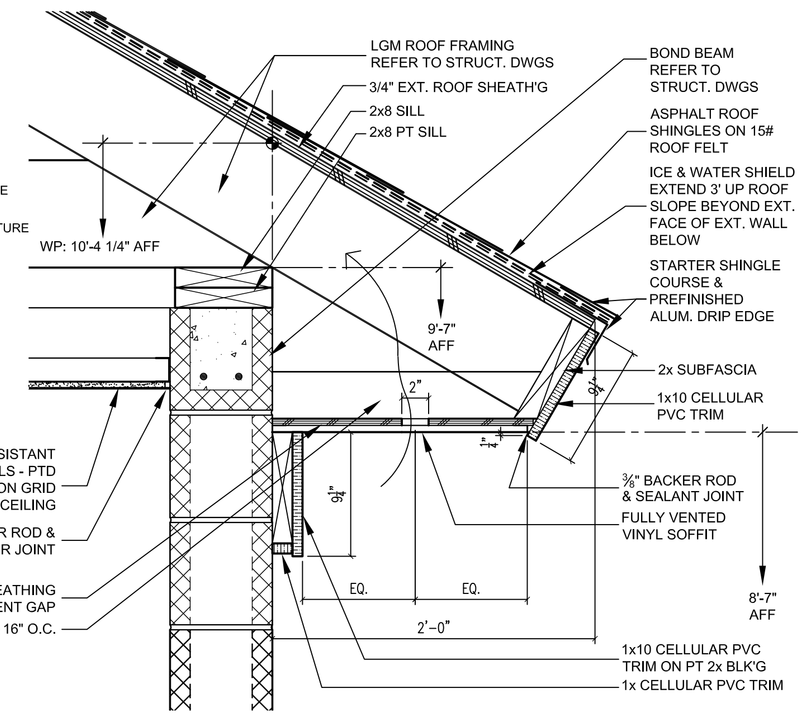
9 VTR DETAIL
SCALE: 1 1/2" = 1'-0"



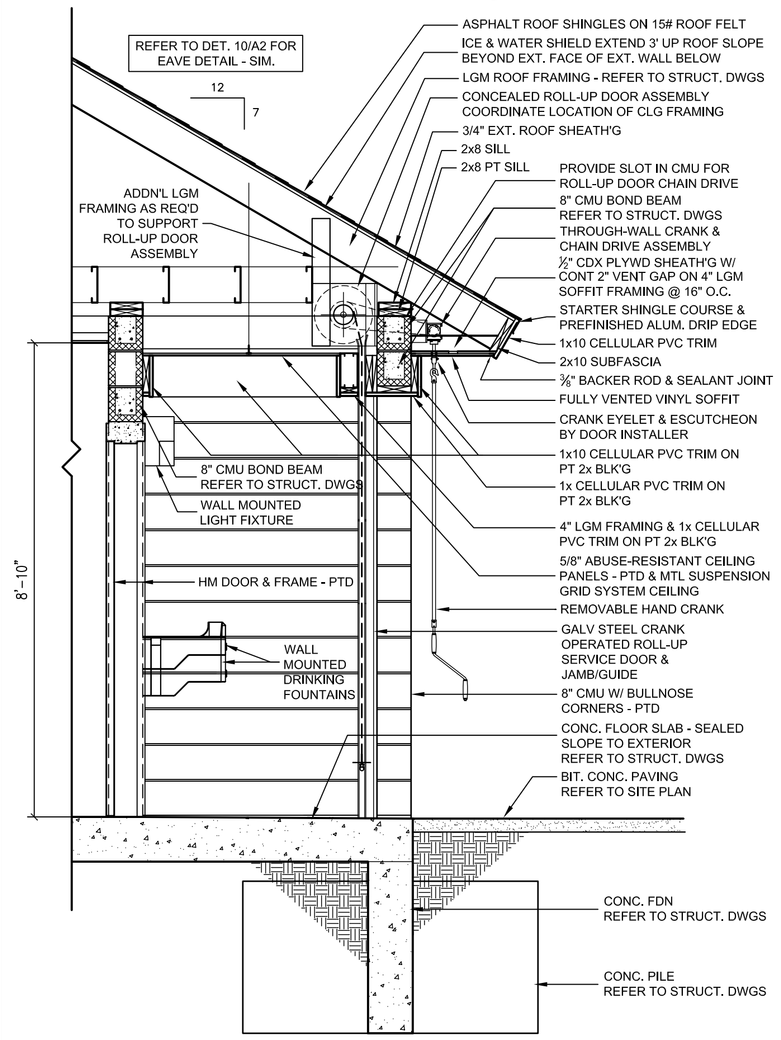
4 WEST ELEVATION
SCALE: 1/4" = 1'-0"



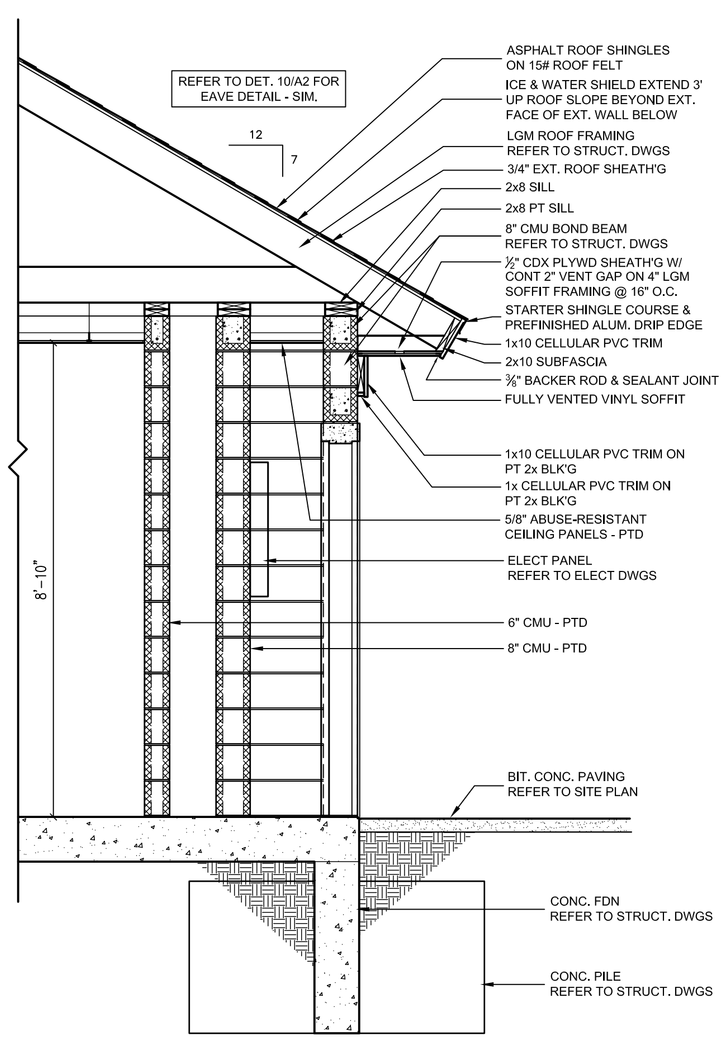
2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



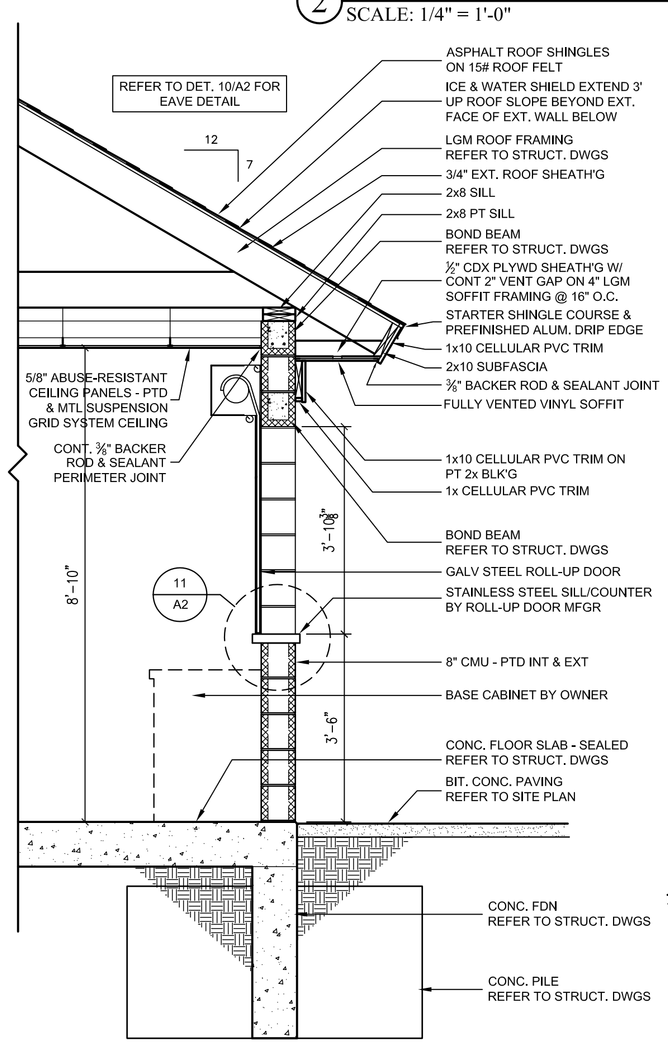
10 EAVE DETAIL
SCALE: 1 1/2" = 1'-0"



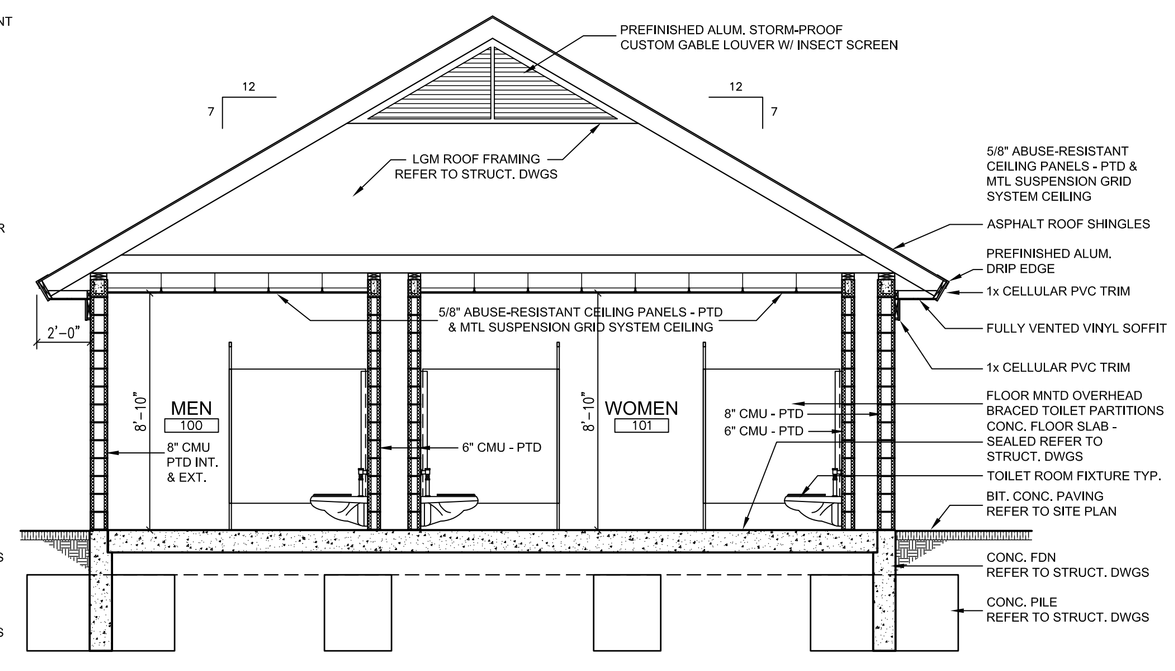
8 WALL SECTION
SCALE: 1/2" = 1'-0"



7 WALL SECTION
SCALE: 1/2" = 1'-0"



6 WALL SECTION
SCALE: 1/2" = 1'-0"



5 BUILDING SECTION
SCALE: 1/4" = 1'-0"

RDA architecture
Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

ELEVATIONS - SECTIONS

Revisions:

No.	Date	Description

Drawn By: SRL
Checked By:
Approved By: GR

Drawing Scale: AS NOTED

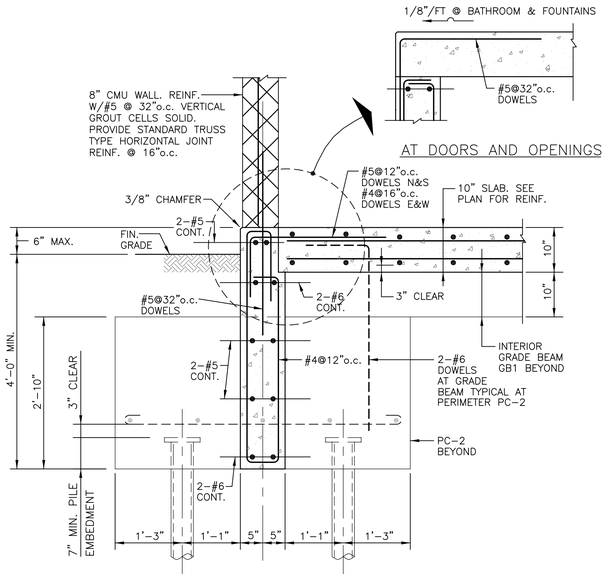
Project Number:

Date: September 8, 2011

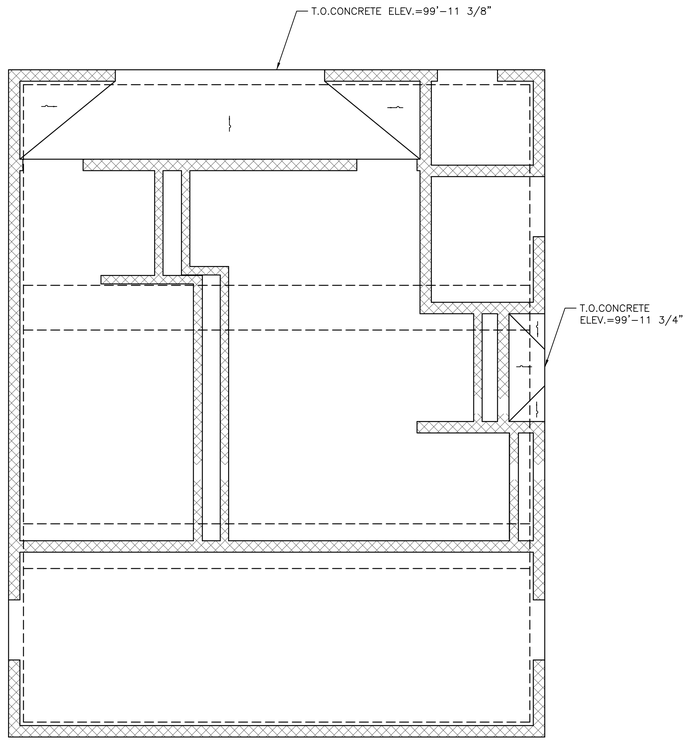
A2

BID SET

SHEET OF

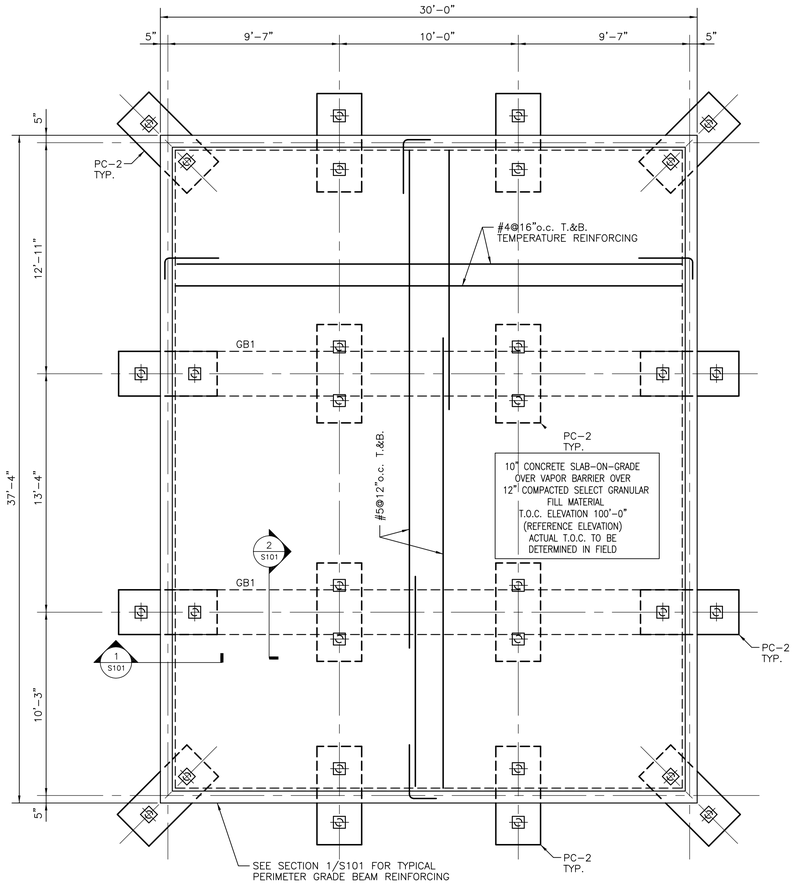


1 S101 **SECTION**
3/4" = 1'-0"



FOR DIMENSIONING OF CMU WALLS & OPENINGS
SEE ARCHITECTURAL FLOOR PLANS

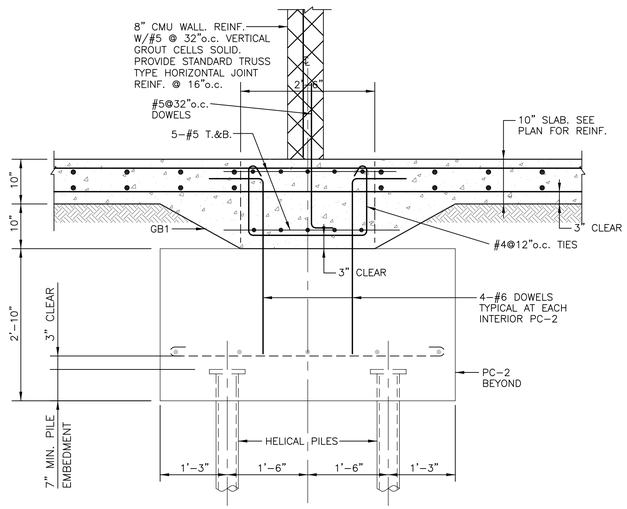
2 **FLOOR PLAN**
1/4" = 1'-0"



APPROXIMATE LOCATION FOR BORING B-4
SEE GEOTECHNICAL REPORT FOR EXACT LOCATION OF B-4

B-4

1 **PILE CAP LAYOUT & SLAB REINFORCING PLAN**
1/4" = 1'-0"



2 S101 **SECTION**
3/4" = 1'-0"

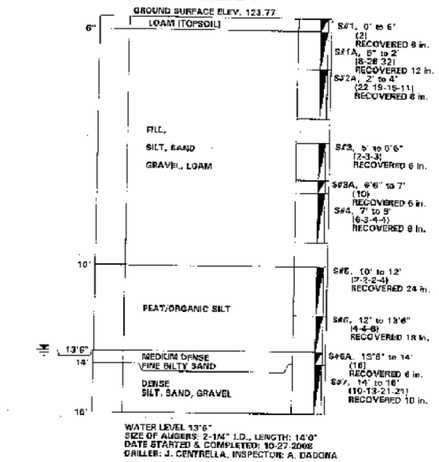
CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500

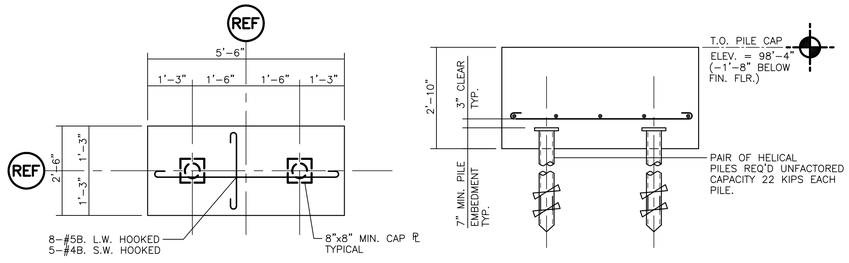
To: MCPHAIL ASSOCIATES,INC., 2269 MASS., AVE., CAMBRIDGE,MA Date: 10-28-2006 Job No. 2006-158

Location: NEWTON SOUTH HIGH SCHOOL, NEWTON, MA Scale: 1 in. = 3 ft.

BORING 4



4 **SOIL BORING LOG FOR B-4**



2 - PILE GROUP (PC-2)

TYPICAL PILE (PC-2) SECTION

3 **TYPICAL PILE CAP DETAILS**
SCALE: 1/2" = 1'-0"

RDA architecture

Raymond Design Associates, Inc.

222 North Street
Hingham, MA 02043

RRC Engineering LLC structural engineers
78 South Street Wrentham, MA 02093
508 384-0163
www.rrcengineering.com

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

FOUNDATION PLAN AND SECTIONS

Revisions:

No.	Date	Description
1	04.05.10	
	09.08.11	BID SET

Drawn By: PES
Checked By: DAJ
Approved By: RRC

Drawing Scale:

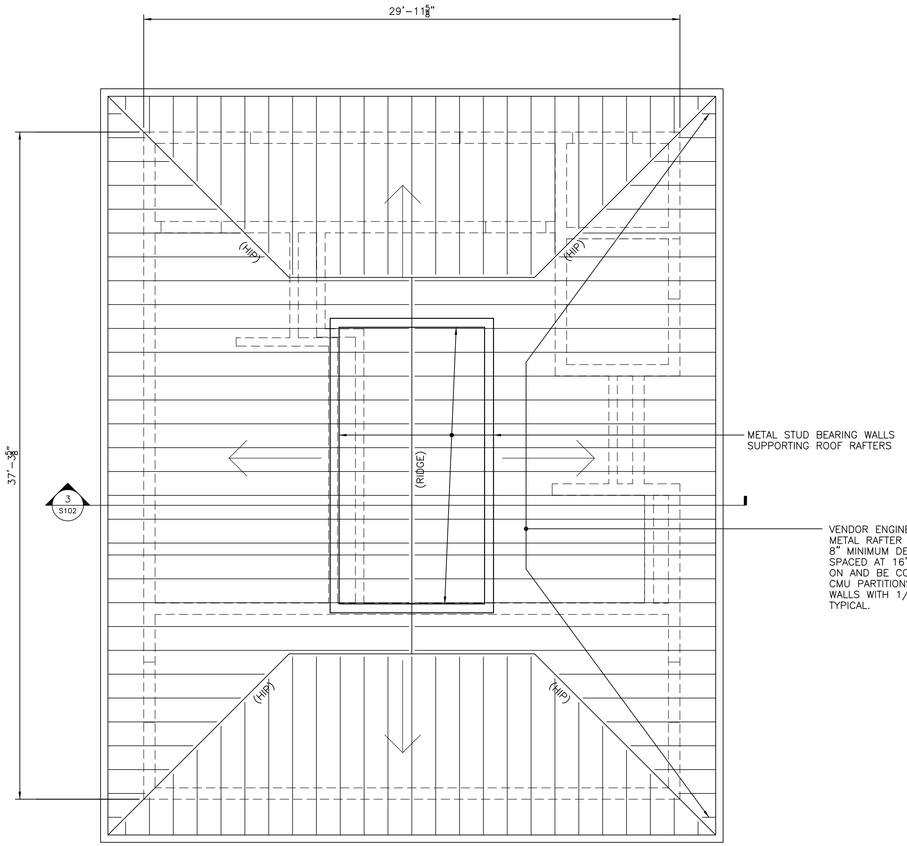
Project Number: 10025

Date: 09.08.11

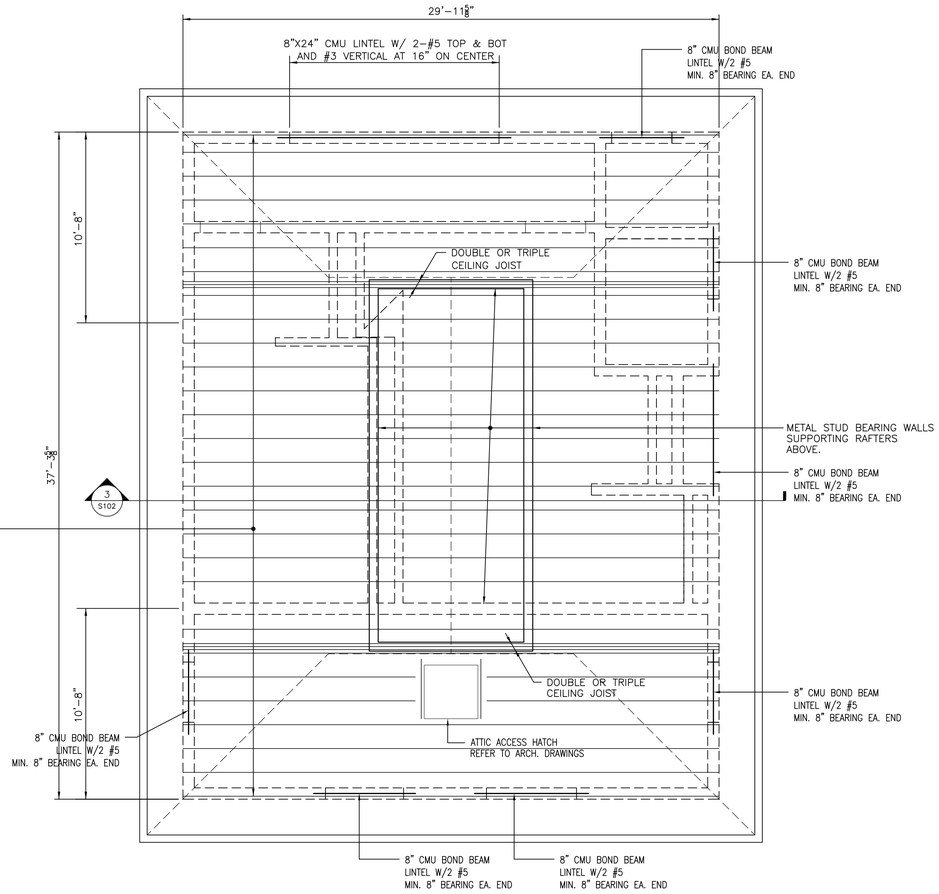
BID SET

S101

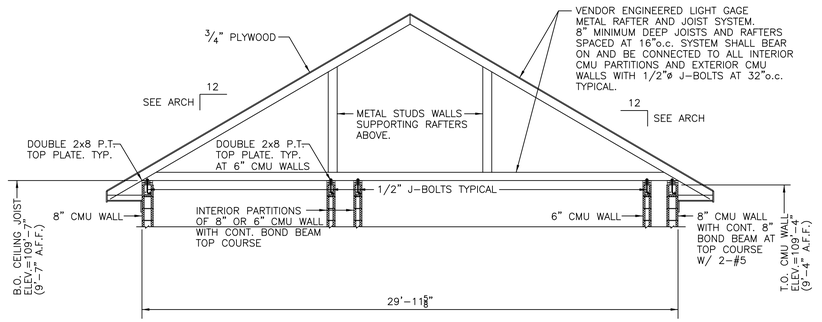
SHEET OF



2 **ROOF FRAMING PLAN**
1/4" = 1'-0"



1 **CEILING FRAMING PLAN**
1/4" = 1'-0"



3 **SECTION**
1/4" = 1'-0"

RDA architecture

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222 North Street
Hingham, MA 02043

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CEILING FRAMING PLAN
& ROOF FRAMING PLAN

Revisions:

No.	Date	Description
1	04.05.10	
	09.08.11	BID SET

Drawn By: PES
Checked By: DAJ
Approved By: RRC

Drawing Scale:

Project Number: 10025

Date: 09.08.11

BID SET

S102

SHEET OF

GENERAL NOTES

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE SEVENTH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE.

3. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD NEW STRUCTURES IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

4. WHERE CONSTRUCTION OCCURS WITHIN OR ADJACENT TO EXISTING CONSTRUCTION, THE CONTRACTOR SHALL FIELD MEASURE THE EXISTING BUILDING DIMENSIONS AND COMPONENTS AND COORDINATE CONSTRUCTION DETAILS WITH THE ACTUAL DIMENSIONS.

5. ALL CONSTRUCTION IS NEW UNLESS SPECIFICALLY NOTED AS EXISTING (E).

6. THE STRUCTURE WAS DESIGNED FOR THE FOLLOWING LOADS:

   FLOOR LIVE LOADS
   PUBLIC AND SERVING AREAS 40 PSF

   ROOF SNOW LOADS
   GROUND SNOW, Pg = 55 PSF
   FLAT ROOF SNOW, Pf = 38.5 PSF

   WIND LOADS
   BASIC WIND SPEED, V = 105 MPH
   WIND IMPORTANT FACTOR, Iw = 1.0
   WIND EXPOSURE C

   EARTHQUAKE DESIGN DATA
   SEISMIC IMPORTANCE FACTOR 1.0
   SEISMIC USE GROUP I
   MAPPED SPECTRAL RESPONSE ACCELERATIONS Ss = 0.27 AND S1 = 0.068
   SPECTRAL RESPONSE COEFFICIENTS SDS = 0.288 AND SD1 = 0.109
   SITE CLASS D
   SEISMIC DESIGN CATEGORY B
   BASE STRUCTURAL SYSTEM – CONCRETE ONE WAY SLAB ON GRADE BEAMS AND PILE CAPS
   BASE SEISMIC FORCE RESISTING SYSTEM – SPECIAL REINFORCED MASONRY SHEAR WALLS
   DESIGN BASE SHEAR V = 16,500 lbs
   SEISMIC RESPONSE COEFFICIENT, Cs = 0.058
   RESPONSE MODIFICATION FACTOR, R = 3.5
   ANALYSIS PROCEDURE – EQUIVALENT LATERAL FORCE

7. MECHANICAL UNIT WEIGHTS AND LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY LOCATIONS AND WEIGHTS SHOWN AND REPORT DISCREPANCIES TO THE ARCHITECT.

FOUNDATION NOTES

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT ENTITLED "PRELIMINARY GEOTECHNICAL ENGINEERING REPORT, NEWTON SOUTH HIGH SCHOOL ATHLETIC CAMPUS, PROJECT #4891, for GALE ASSOCIATES", PREPARED BY McPHAIL ASSOCIATES, INC., DATED NOVEMBER 18, 2008.

2. DESIGN OF FOUNDATIONS IS BASED ON AN ASSUMED HELICAL PILE CAPACITY OF 22 KIPS EACH. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR RETAINING THE SERVICES OF A GEOTECHNICAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS TO DESIGN A HELICAL PILE SYSTEM CAPABLE OF SUPPORTING THE ASSUMED PILE LOADS. A FINAL GEOTECHNICAL REPORT IS TO BE PROVIDED BY THE GEOTECHNICAL ENGINEER.

3. EXTERIOR GRADE BEAMS SHALL PENETRATE A MINIMUM OF 4'–0" BELOW EXTERIOR FINISHED GRADE.

4. SUBGRADE BENEATH FOUNDATIONS AND CONCRETE SLABS SHALL BE COMPACTED TO A MINIMUM DRY DENSITY OF 95% AS DETERMINED BY ASTM D1557.

5. FOUNDATIONS SHALL BE TEMORARILY BRACED OR HAVE PERMANENT BRACING IN PLACE PRIOR TO BACKFILLING.

6. BACKFILL SHALL BE PLACED SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION TO THE GRADES INDICATED. WHERE THE EXTERIOR GRADE IS MORE THAN TWO FEET BELOW THE FLOOR SLAB ELEVATION, FOUNDATION WALLS SHALL BE BRACED UNTIL THE FLOOR SLAB HAS BEEN IN PLACE FOR AT LEAST 14 DAYS.

7. PILE CAPS, GRADE BEAMS AND STRUCTURAL SLABS SHALL NOT BE PLACED ON SUBGRADES CONTAINING STANDING WATER, SNOW, FROST, OR ICE.

8. THE SOIL SUBGRADE SHALL BE PROTECTED FROM FREEZING WITH INSULATING BLANKETS, TEMPORARY HEAT, OR OTHER MEANS.

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS ACI 301, ACI 315, AND ACI 318.

2. ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS:

   PILE CAPS AND PERIMETER GRADE BEAMS f'c = 3,000 PSI
   CEMENTITIOUS MATERIALS CONTENT 517 #/CY
   WATER CEMENT RATIO 0.5
   SLUMP 4" PLUS/MINUS 1"

   STRUCTURAL SLABS AND INTERIOR GRADE BEAMS f'c = 4,000 PSI
   CEMENTITIOUS MATERIALS CONTENT 611 #/CY
   WATER CEMENT RATIO 0.45
   SLUMP 4" PLUS/MINUS 1"
   NO AIR–ENTRAINING ADMIXTURE

   EXTERIOR SLABS f'c = 4,000 PSI
   CEMENTITIOUS MATERIALS CONTENT 611 #/CY
   WATER CEMENT RATIO 0.45
   SLUMP 4" PLUS/MINUS 1"
   AIR CONTENT 6% PLUS/MINUS 1%

3. REINFORCING STEEL SHALL BE AS FOLLOWS:
   REINFORCING BARS – ASTM A615 GRADE 60
   WELDED WIRE FABRIC – ASTM A185

4. FLY ASH ADDITIVES SHALL NOT BE USED FOR CONCRETE SLABS OR ARCHITECTURALLY EXPOSED CONCRETE.

5. ALL REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

6. DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN POSITION BEFORE CONCRETE IS PLACED. DOWELS SHALL NOT BE INSTALLED INTO WET CONCRETE.

7. MINIMUM COVER TO REINFORCEMENT SHALL BE:

   CAST AGAINST SOIL 3"
   FORMED SURFACES EXPOSED TO GROUND 2"
   TOP OF EXTERIOR SLABS 2"
   INTERIOR PIERS, PILASTERS 1 ½"
   INTERIOR WALL SURFACES 1"
   TOPS OF INTERIOR SLABS 1"

8. ALL CONTINUOUS REINFORCEMENT SHALL HAVE A MINIMUM SPLICE AS REQUIRED FOR A CLASS B SPLICE, PER ACI 318, SECTION 12.15, UNLESS OTHERWISE NOTED.

9. CURE CONCRETE SLABS BY COVERING WITH A MOISTURE RETAINING COVER AND KEEPING THE SURFACE CONTINUALLY WET FOR AT LEAST 7 DAYS.

10. CURE FORMED SURFACES BY MOIST CURING WHILE FORMS REMAIN IN PLACE. AFTER REMOVAL OF FORMS, APPLY A LIQUID MEMBRANE–FORMING CURING COMPOUND COMPLYING WITH ASTM C309, TYPE I, PER MANUFACTURER'S RECOMMENDATIONS.

11. VAPOR RETARDER SHALL BE PLACED BENEATH A 4" THICK LAYER OF GRANULAR FILL. VAPOR RETARDER SHALL BE GRIFFOLYN VAPORGUARD BY REEF INDUSTIES, STEGO WRAP (15 MILS) VAPOR BARRIER BY STEGO INDUSTRIES LLC, OR PREMOULDED MEMBRANE WITH PLASTMATIC CORE BY W. R. MEADOWS. MINIMUM VAPOR RETARDER THICKNESS SHALL BE 10 MILS, AND SHALL CONFORM TO ASTM E1745, CLASS A OR B.

12. UNLESS NOTED OTHERWISE, ANCHORING ADHESIVE FOR REBAR DOWELS SHALL BE HILTI HIT RE 500 EPOXY ANCHORING SYSTEM.

13. SUBMIT THE FOLLOWING TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION:

   a. CONCRETE MIX DESIGN AND TEST REPORTS FOR THE PROPSED CONCRETE MIXES
   b. PRODUCT DATA FOR MATERIALS, ADMIXTURES, AND ACCESSORIES
   c. REINFORCING STEEL SHOP DRAWINGS

CONCRETE MASONRY NOTES

1. CONCRETE MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTUTE (ACI) "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES" ACI 530–95 / ASCE 5–95.

2. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR CONCRETE MASONRY STRUCTURES" ACI 530.1–95 / ASCE 6–95.

3. THE COMPRESSIVE STRENGTH OF MASONRY, f'm, EXPRESSED AS FORCE PER UNIT OF NET CROSS–SECTIONAL AREA, SHALL BE 1,500 PSI AT 28 DAYS.

4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE 2 AND BE MADE WITH NORMAL WEIGHT AGGREGATE. COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL COMPLY WITH THE FOLLOWING

   1,900 PSI FOR f'm = 1,500 PSI

5. REINFORCING STEEL SHALL COMPLY WITH ASTM A 615, GRADE 60. SHOP–FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.

6. HORIZONTAL JOINT REINFORCING SHALL CONFORM TO ASTM A951 AND BE HOT–DIPPED GALVANIZED.

7. GROUT SHALL COMPLY WITH ASTM C 476 AND SHALL BE PROPORTIONED TO OBTAIN THE FOLLOWING 28–DAY COMPRESSIVE STRENGTHS:

   2,000 PSI FOR f'm = 1,500 PSI

8. MORTAR SHALL COMPLY WITH ASTM C 270, TYPE S OR M. AGGREGATE FOR MORTAR SHALL COMPLY WITH ASTM C 144. USE TYPE M MORTAR BELOW GRADE AND TYPE S MORTAR ABOVE GRADE.

9. ALL MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.

10. LAP REINFORCING BARS 48 X BAR DIAMETER AT ALL SPLICES.

11. PROVIDE REBAR DOWELS FROM THE FOUNDATION OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING. DOWELS SHALL HAVE STANDARD ACI HOOKS.

12. ALL CMU CORES BELOW FINISHED GRADE SHALL BE GROUTED SOLID.

13. PROVIDE BAR POSITIONERS FOR ALL VERTICAL REINFORCING AT 200 X BAR DIAMETER SPACING.

14. SUBMIT THE FOLLOWING TO THE ARCHITECT FOR REVIEW PRIOR TO CONSTRUCTION:

   LETTER OF COMPLIANCE OF MASONRY UNITS WITH ASTM C90
   GROUT MIX DESIGN AND TEST REPORTS FOR THE PROPOSED MIX
   REINFORCING STEEL SHOP DRAWINGS

STRUCTURAL COLD–FORMED METAL FRAMING

1. ALL STUDS, JOISTS, HEADERS, TRACK AND ACCESSORIES SHALL BE FORMED FROM STEEL THAT MEETS THE REQUIREMENTS OF THE LATEST EDITION OF AISI SPECIFICATIONS AND STANDARDS. ALL MATERIALS SHALL BE FORMED FROM STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A653 AND BE HOT–DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A653–G60.

2. MINIMUM YIELD STRENGTH SHALL BE 33,000 PSI FOR ALL TRACK, 20 GA. AND 18 GA. MEMBERS, AND 50,000 PSI FOR ALL 16 GA., 14 GA., AND 12 GA. MEMBERS.

3. PROVIDE COLD FORMED CHANNEL BRIDGING FOR LATERAL BRACING OF COMPRESSION MEMBERS AT A MINIMUM SPACING OF 48" O.C.

4. PROVIDE WEB STIFFENERS AT ALL JOIST BEARING POINT LOCATIONS. JOIST WEBS SHALL BE ALIGNED WITH STUDS IN BEARING WALLS.

5. STUDS SHALL BE INSTALLED WITH FULL BEARING AGAINST THE INSIDE OF RUNNER TRACK AT BOTH TOP AND BOTTOM OF WALL.

6. ANCHOR RUNNER TRACK TO CONCRETE SLAB WITH 0.177 DIAMETER POWDER DRIVEN FASTENERS SPACED AT A MINIMUM OF 16" O.C., UNLESS OTHERWISE INDICATED ON DRAWINGS.

7. ALL FRAMING, INCLUDING STUDS, JOISTS, HEADERS, SILLS, TRACKS, ACCESSORIES AND CONNECTIONS SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF AISI "SPECIFICATIONS FOR THE DESIGN OF COLD–FORMED STEEL STRUCTURAL MEMBERS." DESIGNS SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

8. SUBMIT THE FOLLOWING TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION:

   CALCULATIONS, STATEMENT OF DESIGN CRITERIA, ENGINEERING ANALYSIS, INDICATION STRESS AND DEFLECTION FOR EACH FRAMING APPLICATION, SELECTION OF FRAMING COMPONENTS AND ACCESSORIES, VERIFICATION OF ATTACHMENT TO STRUCTURE AND/OR ADJACENT FRAMING COMPONENTS.

   SHOP DRAWINGS INCLUDING PLANS, SECTIONS, ELEVATIONS, DETAILS, AND CONNECTION REQUIREMENTS.

   SUBMITTALS SHALL BE STAMPED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

9. THE GOVERNING BUILDING CODE SHALL BE REFERRED TO FOR DETERMINING DEAD LOADS AND LIVE LOADS. REFER TO THE CONSTRUCTION DOCUMENTS FOR ANY ADDITIONAL DESIGN LOADS. LOADING CONDITIONS SHALL BE CONSIDERED AS REQUIRED BY THE GOVERNING BUILDING CODE.

10. ALL MEMBERS SHALL BE DESIGNED FOR THE FOLLOWING DEFLECTION LIMITS:

    ROOF LOAD, SNOW LOAD L/360
    TOTAL DEAD PLUS LIVE LOAD L/240

WOOD FRAMING

1. LUMBER SHALL BE SPRUCE–PINE–FIR NO. 1 / NO. 2 OR BETTER WITH THE FOLLOWING MINIMUM PROPERTIES:

   ALLOWABLE BENDING STRESS Fb= 875 PSI
   ALLOWABLE SHEAR STRESS Fv= 70 PSI
   COMPRESSION Fc= 1,100 PSI
   MODULUS OF ELASTICITY E= 1,400,000 PSI

2. PRESSURE TREATED LUMBER SHALL BE USED WHERE INDICATED ON PLANS, IN ALL EXTERIOR APPLICATIONS, AND IN APPLICATIONS WHERE THE LUMBER IS IN CONTACT WITH GROUND. PRESSURE TREATED LUMBER SHALL BE SOUTHERN YELLOW PINE, NO. 1 GRADE. LUMBER SHALL BE TREATED WITH ALKALINE COPPER QUAT (ACQ) OR COPPER AZOLE (CBA) PRESERVATIVE.

3. FRAMING CONNECTORS AND FASTENERS FOR USE WITH PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL. ALTERNATIVELY, BATCH/POST HOT–DIPPED GALVANIZED FASTENERS (ASTM A153) AND FRAMING CONNECTORS (ASTM A123) SHALL BE USED THICK APA RATED SHEATHING, C–D

4. PLYWOOD ROOF SHEATHING SHALL BE 19/32? OR 5/8? EXPOSURE 1, 32/16 SPAN RATING. LONG DIMENSION SHALL BE PERPENDICULAR TO SUPPORTS. JOINTS SHALL BE STAGGERED. ? CC AROUND THE

5. FASTEN ROOF SHEATHING TO SUPPORTING MEMBERS WITH 10D NAILS AT 4 PERIMETER OF INDIVIDUAL SHEETS AND 12? CC WITHIN THE FIELD.

TESTING AND INSPECTIONS

1. THIS PROJECT IS SUBJECT TO CONSTRUCTION CONTROL PER THE MASSACHUSETTS STATE BUILDING CODE. AS PART OF CONSTRUCTION CONTROL REQUIREMENTS, THE ENGINEER HAS PREPARED AND SUBMITTED TO THE ARCHITECT A PROGRAM OF TESTS AND SPECIAL INSPECTIONS. THE CONTRACTOR SHALL COORDINATE THE ACTIVITIES OF THE SPECIAL INSPECTOR TO ENSURE THAT ALL TESTS NOTED IN THE PROGRAM ARE TAKEN.

2. THE OWNER WILL RETAIN THE SERVICES OF THE SPECIAL INSPECTOR TO PERFORM THE TESTS AND INSPECTIONS NOTED.

3. SPECIAL INSPECTONS WILL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE SIXTH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE. THE PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

   EARTHWORK

   STRUCTURAL FILL MATERIAL
   FILL LIFT THICKNESS
   IN–PLACE DENSITY

   CONCRETE CONSTRUCTION
   CONCRETE MATERIALS TESTING
   LOCATION AND INSTALLATION DETAILS OF REINFORCING
   EVALUATION OF CONCRETE STRENGTH
   PROPER USE OF MIX PROPORTIONS
   CONCRETE PLACEMENT TECHNIQUES
   CURING TECHNIQUES AND CURING TEMPERATURES

   MASONRY CONSTRUCTION

   FULL TIME INSPECTION OF LOADBEARING MASONRY WALLS
   MASONRY STRENGTH
   PROPORTIONING AND MIXING OF MORTAR AND GROUT
   LOCATION AND INSTALLATION DETAILS OF REINFORCING
   PLACING OF MORTAR AND GROUT
   HOT AND COLD WEATHER PROTECTION

QUALITY ASSURANCE PROGRAM

1. THIS QUALITY ASSURANCE PROGRAM IS PREPARED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH 780 CMR 1701.4 OF THE 7TH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE.

2. ANY DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, STRUCTURAL ENGINEER AND ARCHITECT OF RECORD.

3. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

4. MATERIALS AND ACTIVITIES TO BE INSPECTED ARE NOT TO INCLUDE THE CONTRACTOR'S EQUIPMENT OR METHODS USED TO ERECT OR INSTALL THE MATERIALS LISTED.

5. THE FOLLOWING CATEGORIES OF STRUCTURAL TESTS AND INSPECTIONS ARE INCLUDED IN THE PROGRAM FOR STRUCTURAL TESTS AND INSPECTIONS FOR THIS PROJECT. THE SPECIFIC TESTS AND INSPECTIONS REQUIRED FOR EACH CHECKED CATEGORY ARE LISTED IN DETAIL ON THIS SHEET:

   CAST–IN–PLACE CONCRETE
   MASONRY

6. THE FOLLOWING ITEMS OF CONSTRUCTION ARE SPECIFIED IN THE STRUCTURAL PLANS OR SPECIFICATIONS ON A PERFORMANCE BASIS. IN ACCORDANCE WITH 780 CMR 1705.3.4, THEIR STRUCTURAL DESIGNS WILL BE REVIEWED BY THE SER AND THEIR CONSTRUCTION IS INCLUDED IN THE PROGRAM FOR TESTS AND INSPECTIONS:

   PILE DESIGN AND INSTALLATION
   LIGHT GAUGE METAL FRAMING

7. THE FOLLOWING ITEMS ARE EXCLUDED FROM THIS QUALITY ASSURANCE PROGRAM SINCE THEY ARE DESIGNED BY OTHER REPSONSIBLE DESIGN PROFESSIONALS NOT UNDER THE AEGIS OF THE STRUCTURAL ENGINEER OF RECORD AND THE STRUCTURAL ENGINEER OF RECORD WAS NOT RETAINED TO PROVIDE PERFORMANCE SPECIFICATIONS FOR THEIR DESIGN. THESE OTHER RESPONSIBLE DESIGN PROFESSIONALS MUST BE ASSIGNED BY THE OWNER OR ARCHITECT, AS APPLICABLE, TO PREPARE A SEPARATE QUALITY ASSURANCE PROGRAM FOR THEIR RESPECTIVE DESIGNS.

   IN–SITU BEARING STRATA
   NON–STRUCTURAL ASSEMBLIES

8. THE CONTRACTOR SHALL PROVIDE A QUALITY CONTROL PROGRAM FOR THE CONSTRUCTION REGULATED UNDER 780 CMR 17.00 OF THE 7TH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE, QUALITY ASSURANCE, AND ITS IMPLEMENTATION DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITIES FOR QUALITY CONTROL OF THE CONSTRUCTION, FOR COMPLIANCE WITH THE PROJECT CONSTRUCTION DOCUMENTS, NOR FOR ANY DESIGN FOR WHICH IT IS RESPONSIBLE.

9. AS FABRICATION AND CONSTRUCTION PROGRESS, INSPECTION REPORTS AND RECORDS OF TESTS AND INSPECTIONS SHALL BE FORWARDED, BY THE CONTRACTOR, TO THE REGISTERED DESIGN PROFESSIONAL (RDP) FOR REVIEW AND APPROVAL. THE ENGINEER SHALL NOTE ANY UNRESOLVED CONSTRUCTION DEFICIENCIES IN WRITING TO THE BUILDING OFFICIAL AND THE ARCHITECT.

LIGHT GAUGE METAL FRAMING

ITEM	AGENT	SCOPE	FREQUENCY
1. LIGHT GAUGE METAL FRAMING QC REVIEW	ENGINEER OF RECORD	–REVIEW OF CONTRACTOR'S FIELD QUALITY CONTROL PROCEDURES. –REVIEW SCOPE OF TESTING AND INSPECTIONS.	
2. MATERIAL CERTIFICATION	TESTING COMPANY	–REVIEW FOR CONFORMANCE TO CONTRACT DOCUMENTS.	
3. INSTALLATION	TESTING COMPANY	–VERIFY THAT TYPE, SIZE, QUANTITY, LOCATION, DETAILS, AND CONNECTIONS OF FRAMING MEMBERS CONFORM TO RESPONSIBLE RDP APPROVED SUBMITTALS AND THE CONTRACT DOCUMENTS.	
4. WELDING	TESTING COMPANY	–CHECK WELDER QUALIFICATIONS. –VERIFY THAT WELDING CONFORMS TO AWS SPECIFICATIONS, RESPONSIBLE RDP APPROVED SUBMITTAL, AND THE CONTRACT DOCUMENTS. –VISUALLY INSPECT WELDS.	
5. OTHER FASTENERS	TESTING COMPANY	–VERIFY FASTENER TYPE AND INSTALLATION PROCEDURES. –VERIFY THAT FASTENERS CONFORM TO RESPONSIBLE RDP APPROVED SUBMITTALS AND THE CONTRACT DOCUMENTS. –VERIFY THAT FASTENERS ARE INSTALLED TIGHT.	
6. FIELD CORRECTION OF FABRICATED ITEMS	TESTING COMPANY	–REVIEW DOCUMENTATION OF RESPONSIBLE RDP APPROVED REPAIR AND VERIFY COMPLETION OF REPAIRS.	

MASONRY

ITEM	AGENT	SCOPE	FREQUENCY
1. MASONRY CONSTRUCTION QC REVIEW	ENGINEER OF RECORD	– REVIEW CONTRACTOR'S FIELD QUALITY CONTROL PROCEDURES.	PRIOR TO MASONRY CONSTRUCTION
2. MATERIALS	ENGINEER OF RECORD	– REVIEW MATERIAL CERTIFICATIONS FOR CONFORMANCE TO SPECIFICATIONS.	PRIOR TO MASONRY CONSTRUCTION
3. EVALUATION OF MASONRY STRENGTH	TESTING COMPANY	– VERIFY STRENGTH IN ACCORDANCE WITH THE SPECIFICATIONS	PRIOR TO MASONRY CONSTRUCTION
4. PROPORTIONING, MIXING AND CONSISTENCY OF MORTAR AND GROUT	TESTING COMPANY	– INSPECT FIELD–MIXING PROCEDURES FOR CONFORMANCE TO THE SPECIFICATIONS. – VERIFY PROPORTIONING OF MATERIALS IN MORTAR AND GROUT AS DELIVERED TO THE SITE.	– PRIOR TO CONSTRUCTION
5. INSTALLATION OF MASONRY	TESTING COMPANY	– INSPECT PLACEMENT FOR CONFORMANCE TO THE SPECIFICATIONS. – VERIFY CLEANOUT HOLE LOCATIONS (HIGH LIFT GROUTING) – VERIFY THE INSTALLATION OF THE BOND BEAMS AND SPECIAL SHAPES.	– PRIOR TO GROUT PLACEMENT
6. REINFORCEMENT INSTALLATION	TESTING COMPANY	–INSPECT REINFORCING STEEL FOR SIZE, QUANTITY, CONDITION AND PLACEMENT FOR CONFORMANCE TO RESPONSIBLE RDP APPROVED SUBMITTALS AND CONTRACT DOCUMENTS. – INSPECT WELDING OF REINFORCEMENT AND REVIEW WELDER'S CERTIFICATIONS. – INSPECT MECHANICAL SPLICES.	– PRIOR TO GROUT PLACEMENT
7. GROUTING OPERATIONS	TESTING COMPANY	– INSPECT GROUTING PROCEDURES FOR CONFORMANCE WITH THE SPECIFICATIONS. – INSPECT CELLS PRIOR TO GROUTING. – ASSURE OBSERVATION HOLES HAVE BEEN INSTALLED PRIOR TO HIGH LIFT GROUTING.	PRIOR TO GROUT PLACEMENT
8. WEATHER PROTECTION	TESTING COMPANY	- INSPECT FOR SIZE, GRADE OF STEEL, CAMBER, INSTALLATION AND CONNECTION DETAILS. – CHECK AGAINST APPROVED CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS. – INSPECT PROTECTION FOR COLD AND HOT WEATHER FOR CONFORMANCE WITH THE SPECIFICATIONS.	ON–GOING AS INSTALLATION PROGRESSES
9. ANCHORS	TESTING COMPANY	– INSPECT ANCHORAGE OF MASONRY TO OTHER CONSTRUCTION FOR CONFORMANCE TO THE CONTRACT DOCUMENTS.	ON–GOING AS INSTALLATION PROGRESSES

CAST IN PLACE CONCRETE

ITEM	AGENT	SCOPE	FREQUENCY
1. CAST IN PLACE CONCRETE CONSTRUCTION QC REVIEW	TESTING COMPANY	– REVIEW CONTRACTOR'S FIELD QUALITY CONTROL PROCEDURES. – REVIEW FREQUENCY AND SCOPE OF FIELD TESTING AND INSPECTIONS.	AT START OF PROJECT
2. MIX DESIGN	TESTING COMPANY	– REVIEW MIX DESIGNS PRIOR TO PLACEMENT. – VERIFY USE OF REQUIRED MIX DESIGN.	AT START OF PROJECT
3 MATERIALS	ENGINEER OF RECORD	– REVIEW MATERIAL CERTIFICATIONS FOR CONFORMANCE TO SPECIFICATIONS.	AT START OF PROJECT
4. BATCHING PLANT	TESTING COMPANY	– REVIEW PLANT QUALITY CONTROL PROCEDURES AND BATCHING AND MIXING METHODS.	AT START OF PROJECT
5. REINFORCEMENT INSTALLATION	TESTING COMPANY	– INSPECT REINFORCING FOR SIZE, QUANTITY, CONDITION AND PLACEMENT. – VERIFY SIZE, SPACING, COVER, AND TYING OF DOWELS.	PRIOR TO EACH CONCRETE PLACEMENT
6. ANCHOR RODS	TESTING COMPANY	– INSPECT ANCHOR RODS FOR SIZE, TYPE, EMBEDMENT AND THAT THEY ARE PROPERLY SECURED PRIOR TO AND DURING PLACEMENT OF CONCRETE.	PRIOR TO CONCRETE PLACEMENT
7. FORMWORK	TESTING COMPANY	– INSPECT FORM SIZES FOR PROPER SIZES OF CONCRETE MEMBERS.	PRIOR TO EACH CONCRETE PLACEMENT
8. CONCRETE PLACEMENT AND SAMPLING FRESH CONCRETE	TESTING COMPANY	- OBSERVE CONCRETE PLACEMENT OPERATIONS. VERIFY CONFORMANCE TO SPECIFICATIONS, INCLUDING COLD AND HOT WEATHER PLACEMENT PROCEDURES. – PERFORM SLUMP, DENSITY AND AIR CONTENT TESTS AT POINT OF PLACEMENT.	– DURING EACH CONCRETE PLACEMENT – TEST ONCE FOR EACH BATCH WHERE CYLINDERS ARE TAKEN
9. EVALUATION OF CONCRETE STRENGTH	TESTING COMPANY	– TEST AND EVALUATE IN ACCORDANCE WITH THE SPECIFICATIONS.	– FOUR CYLINDERS PER BATCH – ONCE EACH DAY BUT NOT LESS THAN – ONCE FOR EACH 150 CUBIC YARDS NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SLAB AREA
10. CURING AND PROTECTION	TESTING COMPANY	- OBSERVE PROCEDURES FOR CONFORMANCE TO THE SPECIFICATIONS.	ON–GOING AS INSTALLATION PROGRESSES

SPECIAL CASES

ITEM	AGENT	SCOPE	FREQUENCY
1. HELICAL PILES	VENDOR'S ENGINEER & GEOTECHNICAL ENGINEER	–OWNER'S GEOTECHNICAL ENGINEER SHALL REVIEW HELICAL PILE DESIGN AND OBSERVE INSTALLATION, THEN ISSUE REPORT OF PILE CAPACITY ATTAINED	ONCE AT PILE DESIGN AND ONCE AT INSTALLATION OF PILES

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GENERAL NOTES AND QUALITY ASSURANCE PLAN

Revisions:

No.	Date	Description
1	04.05.10	
	09.08.11	BID SET

Drawn By: PES
Checked By: DAJ
Approved By: RRC

Drawing Scale:

Project Number: 10025

Date: 09.08.11

BID SET

S200

SHEET OF